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Minimum
Maximum
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Maximum Match 100%
Listing first 45 summaries
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                                                 Pred. No. is the number of results predicted by chance score greater than or equal to the score of the result and is derived by analysis of the total score distributed.
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Gapop 10.0 ,
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1: /SIDSZ/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*

2: /SIDSZ/gcgdata/geneseq/geneseqp-emb1/AA1982.DAT:*

3: /SIDSZ/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*

4: /SIDSZ/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*
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                                                                                                                                                     /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
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/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1987.DAT:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 using sw model
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SUMMARIES
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Sequence of a gibb	AAP60593	7	207	99.7	1006	10
rTAP1 fusion prote	AAU99889	23	580	100.0	1009	9
TAP1 fusion protei	AAU99882	23	580	100.0	1009	80
Inhibitor of tissu	AAB19073	21	207	100.0	1009	7
Human TIMP-1 prote	AAY08933	20	207	100.0	1009	o.
Human TIMP-1. Hom	AAW30309	18	207	100.0	1009	ហ
Sequence of a huma	AAP60592	7	207	100.0	1009	4
Sequence of human	AAP60275	7	207	100.0	1009	ω
Sequence of tissue	AAP60786	7	207	100.0	1009	N
Human tissue inhib	AAU99875	23	184	100.0	1009	۳
Description	ID		Query Match Length DB	Query Match	Score	Result No.

Barr PJ, Gibson HL,

Pemberton P;

(ARRI-) ARRIVA PHARM INC.

ALIGNMENTS

07-OCT-2002 AAU99875;

(first entry)

AAU99875 standard; Protein; 184 AA

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RESULT 1
AAU99875
ID AAU99875
AC AAU99
XX
AC AAU9
XX
Tiss
KW Tiss
KW Tiss
KW Tiss
KW tunc
KW therf
KW therf
KW therf
KW therf
KW Tiss

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tissue inhibitor of metalloproteases; human; TIMP; protease inhibitor; malaria; emphysema; asthma; chronic obstructive pulmonary disease; cystic fibrosis; otitis emdia; otitis external; HIV; psoriasis; eczema; human immunodeficiency virus; atopic dermatitis; muscular dystrophy; herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease; tumour metastasis; tumour angiogenesis; osteoporosis; Paget's disease;
                                                                                                                                                                                                                                                                           18-DEC-2000;
20-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                          18-DEC-2001; 2001WO-US49256.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200250287-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                glomerulonephritis; scleroderma; Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human tissue inhibitor of metalloproteases (TIMP).
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2001US-331966P
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(CELL-) CELLTECH LTD.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207 AA;
                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; AAN60538
Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 SQIA 184
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Simil
Matches 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                              06-JAN-1986;
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08-AUG-1991
                                                   GB2169295-A.
                                                                                                                                                               01-NOV-1985;
                                                                                                                                                                                                   06-JAN-1986;
                                                                                                                                                                                                                                       05-OCT-1983;
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                                                                                                                                                                                                                                                                                                                                                                                                                              techniques
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Peptide
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                                                                                                                                                                          This invention relates to a novel fusion protein comprising a first protease inhibitor comprising an alphal-antitrypsin or its functionally active portrion and a second protease inhibitor or its functionally active protein. The fusion proteins of the invention may act as an inhibitor of protease activity. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease, cystic fibrosis, otitis media, ocitis external or HIV infection, or for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases such as atopic dermatitis, eczema and psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tumour metastasis and tumour angiogenesis, gastric ulceration,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ·;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria,
bacterial infection, Alzheimer's disease, hypertension and muscular
dystrophy. The present sequence represents the human tissue inhibitor
                                                 Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        metalloproteases used to create the fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLODGLLHITTCSFVAPWNSLSLAQRRGFTKTY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
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0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 1009; DB 23; Length 184; 100.0%; Pred. No. 1.9e-99; ive 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence of tissue inhibitor of metalloproteinase (TIMP).
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/label= potential N-glycosylation site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Connective tissue; extracellular matrix.
                                                                                                                                               Disclosure; Page 37; 134pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 location/Qualifiers
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/label= signal
24..207
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2002-500631/53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184 AA;
WPI; 2002-500631/
N-PSDB; ABK88017.
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Modified-site
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Matches 184;
                                                                                                             inhibitor
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84 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 143
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A gene with residues 64-684 of AAN60538 is claimed. AAN60538 isolated from human a foetal diploid lung cells (ATCC CLL153) library using AAN60539.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Prodn. of metallo-proteinase inhibitors - by recombinant DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Metallo-proteinase inhibitor; wound healing; emphysema;
rheumatoid arthritis therapy; ulceration; tumour metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence of human natural inhibitor of collagenases (NIC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            Murphy G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 1009; DB 7;
100.0%; Pred. No. 2.2e-99;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Docherty AJP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
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101..103
/label= as above
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/label= signal
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86GB-0000199.
85GB-0500341.
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(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                         Harris TJR, Reynolds JJ,
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Protein

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RESULT 4
AAP6052
ID AAP66
XX AAP6
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XX AAP6
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XX AAP6
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Best Local S
Matches 184
                                                                                                                    Sequence activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The patentors claim the AA SQ of human NIC, DNA sequences coding f NIC, and its RNA analogues and plasmids contg. this DNA. NIC inhibits the activity of metallo-proteinases, esp. of collagenase, proteoglycanase, gelatinase or a leucocyte, macrophage or tumour cell metallo-proteinase.

(Updated on 03-OCT-2002 to add missing OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New human natural inhibitor of collagenase - for treating rheumatoid arthritis or ulceration, and new DNA sequences for it
                                                                Erythroid precursor growth; anaemia therapy
                                                                                                                                                                                         13-AUG-1991
                                                                                                                                                                                                                                         AAP60592;
                                                                                                                                                                                                                                                                                     AAP60592 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-JAN-1985;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         SQIA 184
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              184;
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                                                                                                                    of a hu (EPA).
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                                                                                                                                          human
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/note= "claimed"

53..55

/note= "potential :

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                                                                                                                                          protein having erythroid potentiating
                                                                                                                                                                                         entry)
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RESULT 5
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Best Local (
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N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The inventors claim human and gibbon EPA proteins (AAP60592, AAP60593) and CDNA that encodes EPA (AAN60494, AAN60495). The EPA protein has a biological activity of at least about 1,000,000 units per mg of protein and has an apparent molecular weight of about 28,000 daltons.
                                                                                                                                                                                                                                                  TIMP-3; human; antibody; TIMP-3-mediated cancer progression; TIMP-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vectors contg. gene for protein having erythroid potentiating activity - used for producing protein to stimulate growth and formation of erythroid cells
                                                                                                                                                                                                                                                                                                                             Human TIMP-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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                        29-FEB-1996;
                                                                 29-FEB-1996;
                                                                                                               09-SEP-1997
                                                                                                                                                             JP09235300-A
                                                                                                                                                                                                        Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                      AAW30309;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW30309 standard; Protein;
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DB; AAN60494.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               184; Conservative
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REGENTS OF
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                        96JP-0067484
                                                                   96JP-0067484
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98US-0111070
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                                                                      WPI; 1999-384187/32
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                                                                                                                                                                                                                                                                                207 AA;
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 07-JUL-1998;
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                                                 Hawkins PR,
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                                                                                                                                           used to test the specificity of the monoclonal antibody (MAb) of the invention. The MAb of the invention reacts specifically with human TIMP-3 (see AAM30308), by specific recognition of the TIMP-3 fragments represented by AAM30305-W3307. The MAb can be used in the study or diagnosis of TIMP-3-mediated diseases, particularly for the detection of malignant tummour cells, or the diagnosis of progressiveness of cancers. They can also be used in establishing an immunoassay for TIMP-3 or in purification of TIMP-3. The transformed cells can be used for producing TIMP-3 or its equivalent proteins on a large scale. The immunoassay method for TIMP-3 the MAbs is simple, highly reproducible and highly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIMP-4; tissue inhibitor of metalloprotease; human; antibody; diagnosis; treatment; metastasis; neoplastic cell; angiogenesis; tumour; cervical; turtine; pancreatic; colon; intestinal carcinomar, pregnancy; ulcer; osteoarthritis; pulmonary emphysema; peridontal disease; corneal; rheumatoid arthritis; diabetic ulcer; lesion; TIMP-4.
                                                                                                                                                                                                                                                                                                                                                                                                                 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       203
                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                This sequence represents the human TIMP-1 protein. This sequence was used to test the specificity of the monoclonal antibody (MAb) of the
                                                                                                                                                                                                                                                                                                                                                                                         83
                                                           Human TIMP-3 and anti-human TIMP-3 monoclonal antibodies - used in diagnosis of TIMP-3 mediated diseases, especially the detection of
                                                                                                                                                                                                                                                                                                                                                                                  24 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                                                                                                                                                                                                                                                                             84 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
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0
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100.0%; Pred. No. 2.2e-99;
ive 0; Mismatches 0;
                                                                                                         Example 12; Page 33-34; 37pp; Japanese.
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97US-0884073.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                          Conservative
(FUJY ) FUJI PHARM IND
                                                                                 malignant tumour cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human TIMP-1 protein.
                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                          207 AA;
                                    N-PSDB; AAT92631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SQIA 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQIA 207
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27-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US5914392-A
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                                                                                                                                                                                                                                                                                                                                         Matches 184;
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                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAY08933;
                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                Local
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This invention describes a novel method for the production of antibodies specific for the human tissue inhibitors of metalloproteinase 4, TIMP-4. The anti-TIMP-4 antibodies may be used to treat, prevent or diagnose metastasis of neoplastic cells, angiogenesis and growth tumours such as cervical, uterine, pancreatic, colon or intestinal carcinomas, pregnancy, architis, pulmonary emphysema, peridontal disease, rheumatoid arthitis, corneal or diabetic ulcers or ulcers and lesions caused by microorganisms. This sequence represents TIMP-4 which is used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      metalloproteinase inhibitor; TIMP; metalloproteinase; gelatinase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       203
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 207;
                                                                                                                                                                       Anti-tissue inhibitor metalloproteinase antibodies useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Inhibitor of tissue metalloproteinase designated TIMP-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 1009; DB 20; 100.0%; Pred. No. 2.2e-99; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1..23
/note= "signal peptide"
24..207
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  describe the method of the invention.
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                                                                                                                                                                                                                                                        Disclosure, Fig 4; 26pp; English.
                                                                                                                                                                                                 treating and diagnosing cancer
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Matches 184; Conservative
(INCY-) INCYTE PHARM INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             metalloproteinase. Modified TIMP-2 prevents an accumulation of active gelatinase. A on the cell surface, and can inhibit the activation of precursor matrix matelloproteinases. The modified TIMP-2 and the compositions comprising TIMP-2 are useful for inhibiting metastasis of cancer and vascularisation. It is also used for treating diseases associated with them. Specifically, these are useful for preventing or treating metastasis of cancer of the stomach, colon, lung, head and neck, brain tumour, breast, thyroid, prostate, ovary or pancreas, or vascularisation or other conditions associated with these.
                                                                                                                                          TAP1; Alzheimer's disease; tumour angiogenesis; malaria; emphysema; asthma; chronic obstructive pulmonary disease; cystic fibrosis; otitis media; otitis external; HIV; psoriasis; eczema; human immunodeficiency virus; atopic dermatitis; muscular dystrophy; herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease; tumour metastasis; osteoporosis; Paget's disease; scleroderma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence represents an inhibitor of tissue metalloproteinase, designated TIMP. The specification describes modified forms of TIMP, where the amino-terminal alpha-amino group is modified with an electron accepting group to substantially lose the ability to bind to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New modified tissue inhibitor of metalloproteinases, useful for manufacturing compositions for inhibiting metastasis of cancer and vascularisation and for preventing or treating diseases associated with these, e.g. brain tumor
                                                                                                                          glomerulonephritis; hypertension
                                                                                                                                                                                                                                                                                                                                                                                                                                             07-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAU99882 standard; Protein; 580 AA
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                             Homo sapiens
Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
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Pred. No. 2.2e-99;
Pred. No. 2.2e-99;
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Best Local
                                                                                                                                                                                                                                                                                                                                                          disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases such as atopic dermatitis, eczema and psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tumour metastasis and tumour angiogenesis, gastric ulceration, osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria, bacterial infection, Alzheimer's disease, hypertension and muscular dystrophy. The present sequence represents the TAPI fusion protein of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protease inhibitor comprising an alphal-antitrypsin or its functionall active portion and a second protease inhibitor or its functionally active protein. The fusion proteins of the invention may act as an inhibitor of protease activity. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease, cystic fibrosis, otitis media, otitis excernal or HIV infection, or cystic fibrosis, notitis media, otitis excernal or HIV infection, or constitution an individual suffering from or at risk for a disease or increase in the constitution of the constitution of the inventor activities.
                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel fusion protein with a disorder such inhibitor comprising
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1; Page 79-82; 134pp; English
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20-NOV-2001; 2001US-331966P
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                                                         TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR 180
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               invention relates to
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                                                                                                     VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                                                                                                                                                             184;
                                                                                                                                                                                                                                                             Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ARRIVA PHARM
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                                                                                                                                                                                                                                         100.0%; Score 1009; DB 23; 100.0%; Pred. No. 8.3e-99; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             useful for inhibiting protease activity as as emphysema, asthma, comprises a first p alpha l-antitrypsin and a second protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pemberton
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a novel fusion protein comprising sing an alphal-antitrypsin or its
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Indels

Score 1009; DB 23; Pred. No. 8.3e-99; ; Mismatches 0;

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Matches 184; Conservative

Similarity

580 AA;

Sequence Query Match Best Local

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100.08;

100.08;

Length 580;

CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60

397 61

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517 TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR 457 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY VYTPAMESVCGYFHRSHNRSEBFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY

121

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Sequence of a gibbon protein having erythroid potentiating activity (EPA).

(first entry)

13-AUG-1991

AAP60593;

AAP60593 standard; Protein; 207 AA.

SQIA 580 181 SQIA 184

577

Erythroid precursor growth; anaemia therapy

(SANO) SANDOZ LTD. (REGC) REGENTS OF UNIV OF CALIFO.

85WO-5001900 84US-0656590

01-OCT-1985; 01-OCT-1984;

WO8602100-A. 10-APR-1986.

456 120 516 180 576

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rTAPI; Alzheimer's disease; tumour angiogenesis; malaria; emphysema; asthma; chronic obstructive pulmonary disease; cystic fibrosis; otitis media; otitis external; HTV; psoriasis; eczema; human immunodeficiency virus; atopic dermatitis; muscular dystrophy; herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease; tumour metastasis; osteoporosis; Paget's disease; scleroderma; glomerulonephritis; hypertension.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease
                                                                                                                                                                                                                                                                            397..580
/note= "Amino acids 1-184 of human TIMP-1"
                                                                                                                                                                                                                                            'note= "Human AAT amino acids 1-394"
                                                                                                                                                                                                                                                                 'note= "Linker methionine"
                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 3; Page 94; 134pp; English.
                  AAU99889 standard; Protein; 580 AA
                                                                                                                                                                                                                                                                                                                                                                                                                            <u>ц</u>
                                                                                                                                                                                                                                                                                                                                                                                                                            Pemberton
                                                                                                                                                                                                                                                                                                                                                                         18-DEC-2000; 2000US-256699P.
20-NOV-2001; 2001US-331966P.
                                                                                                                                                                                                                                                                                                                                                      18-DEC-2001; 2001WO-US49256
                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                         (ARRI-) ARRIVA PHARM INC.
                                                                                 rTAP1 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                            Gibson HL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2002-500631/53
                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ABK88026
                                                                                                                                                                                                                                                                                                            WO200250287-A2
                                                                                                                                                                                        Homo sapiens.
Synthetic.
                                                              07-OCT-2002
                                                                                                                                                                                                                                                                                                                                 27-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nhibitor
                                         AAU99889;
                                                                                                                                                                                                                                                                                                                                                                                                                           Barr PJ,
                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                        Region
                                                                                                                                                                                                                                                                             Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel
RESULT 9
           AAU99889
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and cDNA that encodes EPA (AAN60494, AAN60495). The EPA protein has a biological activity of at least about 1,000,000 units per mg of protein and has an apparent molecular weight of about 28,000 daltons.
                                                                                                                                                                                                                                                                                                                                                                                                             The inventors claim human and gibbon EPA proteins (AAP60592, AAP60593)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKWTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                            Westbrook CA;
                                                                                                                                                                                                                                                                                                                                       gene for protein having erythroid potentiating d for producing protein to stimulate growth and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 99.7%; Score 1006; DB 7; Length 207; Best Local Similarity 99.5%; Pred. No. 4.6e-99; Matches 183; Conservative 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                           Hewick R,
                                                                                                                                                                                                                                                                           Casson JC,
                                                                                                                                                                                                                                                                                                                                                                                     Disclosure, Fig 5, 59pp, English.
                                                                                                                                                                                                                                                                            Golde DW,
                                                                                                                                                                                                                                                                                                                                                  activity - used for producing formation of erythroid cells
                                                                                                                                                                                                                                                                                                    WPI; 1986-106663/16.
                                                                                                                                                                                                                                                                            Clark S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        207 AA;
                                                                                                                                                                                                                                                                                                                N-PSDB; AAN60495
                                                                                                                                                                                                                                                                                                                                        Vectors contg.
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                                                                                                                                                                                                                                                                            Brown E,
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This invention relates to a novel fusion protein comprising a first protease inhibitor comprising an alphal-antitrypsin or its functionally active portion and a second protease inhibitor or its functionally active protein. The fusion proteins of the invention may act as an inhibitor of protease activity. The fusion protein of the invention of is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease, cystic fibrosis, ocitis media, orticis external or HIV infection, or for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases used as actopic dermatitis, escema and psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epideration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tumour metastasis and tumour angiogenesis, gastric ulceration, osteoporosis, pager's disease, glomerulonephritis, scleroderma, malaria, bacterial infection, Alzheimer's disease, hypertension and muscular dystrophy. The present sequence represents the rTAPPI fusion protein of the invention.

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DB 22;

Length 207;

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RESULT 11
AAG89171
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                                                                                                                                                                                                 N-PSDB; AAH64774.
                                                                                                                                                                                                                      Dumas Milne Edwards
                                                                                                                                                                                                                                                    08-DEC-1999; 99US-0169629
06-MAR-2000; 2000US-0187470
                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                         Human secreted
                                                                                                                                                                                                                                      (GEST ) GENSET
                                                                                                                                                                                                                                                                         07-DEC-2000; 2000WO-IB01938
                                                                                                                                                                                                                                                                                        14-JUN-2001
                                                                                                                                                                                                                                                                                                      WO200142451-A2
                                                                                                                                                                                                                                                                                                                                    GENSET
                                                                                                                                                                                                                                                                                                                                           Human;
                                                                                                                                                                                                                                                                                                                                                                        11-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                      AG89171;
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                                                                                                                                                                                                        2001-367870/38
                                                                                                                                                                                                                                                                                                                                                                                                                                        SQIA 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQIA 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCVPPHPQTAFCNSDLVIKAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                                                                                                                                                                                           secreted
                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                        protein,
                                                                                                                                                                                                                                                                                                                                          protein; gene therapy; vaccine; treatment; diagnosis;
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                                                                                                                                                                                                                     Bougueleret
                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO:
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                                                                                                                                                                                                                      Jobert
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The invention relates to full length GENSET human nucleic acids encoding cotentially secreted proteins. The nucleic acids and the polypeptides they encode may be used in the prevention, treatment and diagnosis of diseases associated with inappropriate GENSET gene expression. For example, they be used to treat disorders associated with decreased GENSET gene expression by rectifying mutations or deletions in a converse of the patient's genome that affect the activity of GENSET or by supplementing the patients own production of GENSET polypeptides. Conversely, antisense nucleic acid melecules may be administered to down regulate GENSET expression by binding with the cells' own genes and preventing their expression. The sense and antisense nucleic acids may also be used as DNA probes in diagnostic assays to detect and quantitate the presence of similar nucleic acid sequences in samples, and hence to determine which patients may be in need of restorative therapy.

The GENSET polypeptides may be used as antigens in the production of antibodies and in assays to identify modulators (agonists and activity. The present sequence is a GENSET polypeptide expression and activity. The Full length GENSET human nucleic acids encoding potentially secreted proteins, useful in gene therapy and vaccination against a variety or diseases, and for diagnosis of those diseases. Claim 21; Page 825; 921pp; English. of.

Sequence

Sequence

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RESULT 12
AAM93377
ID AAM93
XX AAM93
XX AAM93
XX O6-NO
XX Human
XX Human
XX Homo
XX Homo
XX Homo
XX O8-JU
PR 07-JU
XX 08-JU
PR 11-JA
PR 02-MA
XX O8-JU
PR 11-JA
PR 02-MA
XX O8-JU
PR 11-JA
PR 02-MA
XX O8-JU
PR 11-JA
PR 02-MA
XX O6A T
PI Wakam
XX Ota T
PI Wakam
XX Ota T
PI Wakam
XX Claim
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Best Local :
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                                                The invention relates to primers for synthesising full length cDNA clones. 830 cDNA molecules encoding a human protein have been isolated and nucleotide sequences of 5'- and 3'-ends of the cDNA molecules have been determined. Primers for synthesising the full length cDNA are useful for clarifying the function of the protein encoded by the cDNA. The full length clones were obtained by construction of full length enriched cDNA libraries that were synthesised by the oligo-capping method. The primers enable the production of the full length cDNA easily without any special methods. The present sequence is a polypeptide encoded by a full length human cDNA of the invention.

Note: The sequence data for this patent did not form part of the printed specification, but was obtained in CD-ROM format directly from EPO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-JUL-1999;
11-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 8; SEQ ID NO 2953; 1380pp + sequence listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ota T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-JUL-2000; 2000EP-0114089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP1130094-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; full length cDNA; cDNA synthesis; oligo-capping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wakamatsu A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human polypeptide, SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-NOV-2001 (first entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAM93377;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Primers useful for synthesizing full length cDNA clones and their in genetic manipulation - \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2001-524255/58
DB; AAK94297.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nishikawa T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; 99JP-0194486.
; 2000JP-0118774.
; 2000JP-0183765.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sugiyama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.6%;
99.5%;
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a T, Nagai K, Kojima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               207 AA
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); Mismatches
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S, Otsuki
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T, Koga H;
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Gaps

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Mismatches

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Conservative

181;

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                                                                                                                   120
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                                                                                                                                                                                                        203
                             Gaps
                                                          9
                                                                                     83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          from pig, cattle, rabbit and mouse TIMP-1, human, mouse and cattle TIMP-2 and chicken (Ch) and mouse TIMP-3. A probe based on the ChIMP-3 amino acid sequence (AAR6500) is used to isolate DNA encoding human TIMP-3 from a human cDNA library. Human TIMP-3 can be used for the diagnosis, therapy or prophylaxis of conditions characterized by excess or unwanted matrix metalloproteinase activity, e.g. neoplasias, tumor metastasis, inflammatory disorders such as rheumatoid arthritis, ulcerations, reaction to infection, periodontal disease or osteoporosis. It can
                                                          CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                                          144 TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQPRHLACLPREPGLCTWQSLR
                                                                               24 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                   61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                                                   84 VYTPAMESVCGYFHRSHNRSEEFLIAGKLODGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                                                                                            TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tissue inhibitor of metalloproteinase; diagnostic; therapeutic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The protein sequence of the human TIMP-1 is compared with those
                             ;
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Length 207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New human tissue inhibitor of metallo:proteinase-3 - used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 989; DB 16; Length 207; Pred. No. 3e-97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           develop prods. for diagnosis, therapy or prophylaxis of conditions with unwanted matrix metallo:proteinase activity.
                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        inhibitor of metalloproteinase (TIMP-1).
 22;
Score 1004; DB 22
Pred. No. 7.4e-99;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            also be used in drug screening/design.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig 6A-B; 87pp; English.
                                                                                                                                                                                                                                                                                                                                      AAR65005 standard; Protein; 207 AA.
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99.5%;
99.5%;
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93US-0167463.
                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                             Matches 183, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kishnani NS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1995-098775/13
                Similarity
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                                                                                                                                                                                                                                    SQIA 184
                                                                                                                                                                                                                                                               SQIA 207
                                                                                                                                                                                                                                                                                                                                                                                                                         Human tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-AUG-1993;
13-DEC-1993;
                                                                                                                                                                                                                                                                                                                                                                                             23-OCT-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                prophylaxis.
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Best Local (
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98.0%;

Query Match Best Local Similarity

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The invention relates to 2175 novel human ovarian antigens (ABP41054-ABP43228) and to cDNAs encoding them (ABQ54131-ABQ56305), and also encompasses polypeptides 90% identical and polynucleotides 95% identical to the sequences of the invention. The invention additionally relates to recombinant vectors and host cells comprising human ovarian antigen polynucleotides, antibodies against human ovarian antigens and the use of ovarian antigen polynucleotides in diagnosing, treating, prognosing or preventing various ovary and/or breast-related disorders. Such conditions include ovarian cancer and breast cancer, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ovarian cancer; breast cancer; tumour; reproductive system disorder; infertility; pregnancy disorder; anovulation; polycystic ovary syndrome; PCOS; ovarian cyst; dysmenorrhoea; endocrine disorder; infection; inflammatory condition; immune disorder; blood disorder; cardiovascular disorder; respiratory disorder; neurological disorder; cardiovascular disorder; urinary system disorder; drug screening; gene therapy; chromosome mapping; forensic analysis; antibody preparation; cytostatic; immunomodulatory; neuroprotective; antibody preparation; cytostatic; immunomodulatory; neuroprotective; antiinflammatory; gynaecological; reproductive.
                                                                                                                       143
                                                                                                                                                             TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR 180
                                                                               VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 120
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  CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                       CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYBIKMTKMYKGFQALGDAADIRF
                                                                                                                   VYTPAMESVCGYFHRSHNRSEEPLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                                                                                                           144 TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLTGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ovarian; breast; cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO:3338.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 11; SEQ ID No 3338; 2922pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                        ABP42206 standard; Protein; 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human ovarian antigen HCOQ079,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ovarian antigen; ovary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-JUN-2001; 2001WO-US18569
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        neurological diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (HUMA-) HUMAN GENOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-147878/19.
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                                                                                                                                                                                                                                               SQIA 184
                                                                                                                                                                                                                                                                                       SQIA 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
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RESULT 15
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Best Local S
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New human tissue inhibitor of metallo:proteinase-3 - used to develop prods. for diagnosis, therapy or prophylaxis of conditions with unwanted matrix metallo:proteinase activity.
                                                                                                                   WPI; 1995-098775/13.
                                                                                                                                                                                                                                                                                         12-AUG-1993;
13-DEC-1993;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bos primigenius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      prophylaxis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tissue inhibitor of metalloproteinase; diagnostic; therapeutic;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR65003 standard; Protein; 207
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 metastatic tumours of ovarian or breast origin, reproductive system disorders (e.g., infertility, disorders of pregnancy, anovulation, polycystic ovary syndrome, ovarian cysts, and dysmenorrhoea), endocrine disorders, infections (e.g., chlamydia, HIV, toxoplasmosis, and toxic
                                                                                                                                                                                                                                                                                                                                                                        12-AUG-1994;
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                                                                                                                                                                                                                                   (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cattle tissue inhibitor of metalloproteinase (TIMP-1).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPRE 170
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGXEKGFQSRHLACLPRE 191
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                                                                                                                                                                        Kishnani NS,
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                                                                                                                                                                                                                                                                                         93US-0105263.
93US-0167463.
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99.4%;
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Pred. No. 9.4e-91;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                     also be used in drug screening/design.
                                                                                                                                                                                                                                                                                                                                                                                                      metalloproteinase activity, e.g. neoplasias, tumor metastasis, inflammatory disorders such as rheumatoid arthritis, ulcerations, reaction to infection, periodontal disease or osteoporosis. It can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Fig 6A-B; 87pp; English.
   204
                                  181
                                                                    144
                                                                                                       121
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                                                                                                                                                            61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                                                                                                                             24
                                                                                                                                                                                                                               1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
AQMA
                                  SQIA 184
                                                                    AAGCEECTVFPCSSIPCKLQSDTHCLWTDQLLTGSDKGFQSRHLACLPREPGLCTWQSLR
                                                                                       TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                                                             CTCVPPHPQTAFCNSDVVIRAKFVGTAEVNETALYQRYEIKMTKMFKGFSALRDAPDIRF
                                                                                                                                        IYTPAMESVCGYFHRSQNRSEEFLIAGQLSNGHLHITTCSFVAPWNSMSSAQRRGFTKTY
                                                                                                                                                                                                                                                                                  160;
                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                       207 AA;
                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                88.5%;
                                                                                                                                                                                                                                                                                10;
                                                                                                                                                                                                                                                                            Score 893; DB 16;
Pred. No. 5.2e-87;
LO; Mismatches 14;
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Search completed: December 17, Job time: 43.2414 secs 2002, 15:06:04 THIS PAGE BLANK (USPTO)

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Result
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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       hed:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
     369.5
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TOTAL PROPERTY.	PQTAFC SVCGYF	larit Conse	US-09-452-817-1 US-09-452-817-1 US-09-452-817-1 Sequence 1, Application US/09452 Patent No. 6342374 GENERAL INFORMATION: APPLICANT: Carmichael, David F APPLICANT: Stricklin, George P APPLICANT: Anderson, David C APPLICANT: Anderson, David C APPLICANT: Melgus, Howard G TITLE OF INVENTION: Monufactur, FILE PEFERENCE: Serial No. 6342 CURRENT FILLING DATE: 2001-06-2 PRIOR APPLICATION NUMBER: 08/47 PRIOR FILING DATE: 1995-06-07 PRIOR APPLICATION NUMBER: 08/47 PRIOR APPLICATION NUMBER: 08/65 PRIOR FILING DATE: 1992-03-18 PRIOR FILING DATE: 1992-03-08 PRIOR FILING DATE: 1990-05-01 PRIOR APPLICATION NUMBER: 07/51 PRIOR APPLICATION NUMBER: 07/51 PRIOR PILING DATE: 1990-03-08 PRIOR FILING DATE: 1990-03-08 PRIOR APPLICATION NUMBER: 06/78 PRIOR APPLICATION NUMBER: 06/78 PRIOR FILING DATE: 1985-0-05 PRIOR FILING DATE: 1985-0-05 PRIOR FILING DATE: 1985-0-05 PRIOR FILING DATE: 1985-02-05		77777777777888888888888888888888888888
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                                                                                                                                              Sequence 5, Application US/09111070
Patent No. 5914392
GENERAL INFORMATION:
APPLICANT: Hawkins, Phillip R.
APPLICANT: Murry, Lynn E.
TITLE OF INVENTION: METALLOPROTEINASES
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Incyte Pharmaceuticals, Inc
STREET: 3174 Porter Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
OPERATING SYSTEM: DOS
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/111,070
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REGISTRATION NUMBER: 33,954
REPRENCE/DOCKET NUMBER: PF-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEPAX: 415-852-0195
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MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
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LENGTH: 207 amino acids
TYPE: amino acid
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INFORMATION FOR SEQ ID NO:
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APPLICATION NUMBER: C
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CLASSIFICATION:
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TOPOLOGY: lin
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                                                                                                                                                                                                         Sequence 5, Application US/08588163
Patent No. 5643752
GENERAL INFORMATION:
APPLICANT: Hawkins, Phillip R.
APPLICANT: Hawkins, Phillip R.
TITLE OF INVENTION: A NOVEL TISSUE INHIBITOR OF
ITTLE OF INVENTION: METALLOPROTEINASES
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
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ZIP: 94304
ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Disketce
COMPUTER: IBM Compacible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 1.5
SOFTWARE: FastSEQ Version 1.5
CURRENT WARE: Herewith
CLASSIFICATION NUMBER: US/08/588,163
FILING DATE: Herewith
CLASSIFICATION DATA:
APPLICATION NUMBER:
FILING DATE:
FILING DATE:
FILING DATE:
ATTORNEY AGENT INFORMATION:
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LIBRARY: METALLOPROTEINASES
CLONE: TIMP-1
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TYPE: amino acid
STRANDEDNESS: single
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MOLECULE TYPE: peptide
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                                                           Sequence 5, Application US/09262087 Patent No. 6391853
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Post Local Similarity
ches 184; Conserv
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  GENERAL INFORMATION:
APPLICANT: GREENE
APPLICANT: ROSEN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 301-309-8439
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/849,764C
FILING DATE: 19-Sep-1997
CLASSIFICATION: <Unknown
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                         181 SQIA 184
                                                                                                                                                                                                                                                                  144 TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                                                                                                                                       121 TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
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                                                                                                                                                                                                                                                                                                                                                                                                                               24 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION: TELEPHONE: 301-309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: HUMAN GENOME SCIENCES, INC
STREET: 9410 KEY WEST AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear MOLECULE TYPE: protein sequence Description: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: HUMAN TISSUE INHIBITOR OF METALLOPROTEINASE-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: GREENE, JOHN M
ROSEN, CRAIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
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COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: ROCKVILLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 43,975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: MICHELE M. WALES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 207 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 1009; DB 4 ilarity 100.0%; Pred. No. 9e-117; Conservative 0; Mismatches 0
GREENE, JOHN M
ROSEN, CRAIG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
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RESULT 6
US-08-463-261B-11
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                                                                     Sequence 11, Application US/08463261B
Patent No. 6448042
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: John M. Greene and Craig A. Rosen
TITLE OF INVENTION: Human Tissue Inhibitor of Metalloproteinase-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US
FILING DATE: 13-FEB-1994
ATTORNEY/AGENT INFORMATION:
NAME: A. ANDERS BROOKES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: HUM
TITLE OF INVENTION: MET
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: HUMAN GENO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION TELEPHONE: 301-309-8504
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APPLICATION NUMBER: 08/463,261
FILING DATE: 05-JUN-1995
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               CORRESPONDENCE ADDRESS:
ADDRESSEE: HUMAN GEN
                                                         NUMBER OF SEQUENCES:
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Local Similarity 100.0%; Pred. No. 9e-117;
nes 184; Conservative 0; Mismatches 0
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REFERENCE/DOCKET NUMBER: PF148P1D1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/09/262,087 FILING DATE: 04-MAR-1999 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 207 amino TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                                                                                                                                                                                                   TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR 180
                                                                                                                                                                                                                                                 SQIA 207
                                                                                                                                                                                                                                                                                                                             TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR 203
                                                                                                                                                                                                                                                                                                                                                                                                      VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 143
                                                                                                                                                                                                                                                                                                                                                                                                                        \VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 120
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9410 KEY WEST AVE
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E: HUMAN GENOME SCIENCES,
9410 KEY WEST AVENE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCT/US94/14498
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us-09-452-817-1.rai

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PRIOR FILING DATE: 1992-03-18
PRIOR APPLICATION NUMBER: 07/517,475
PRIOR FILING DATE: 1990-05-01
PRIOR APPLICATION NUMBER: 07/320,923
PRIOR APPLICATION NUMBER: 06/784,319
PRIOR PILING DATE: 1989-03-08
PRIOR PLING DATE: 1985-10-04
PRIOR FILING DATE: 1985-10-05
NUMBER: 06/699,181
PRIOR FILING DATE: 1985-02-05
SOFTWARE: PALENTIN NUMBER: 06/699,181
PRIOR FILING DATE: 1985-02-05
SOFTWARE: PALENTIN VOR: 20
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FILING DATE: Herewith
FILASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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MEDIUM TYPE: Diskette
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: DOS
SOFTWARE: FASCEGO Version 1.5
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Application US/08588163
Patent No. 5643752
GENERAL INFORMATION:
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TELEPHONE: 415-855-0555
TELEFAX: 415-852-0195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: ATTORNEY/AGENT INFORMATION:
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LENGTH: 211 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Luther, Barbara J
REGISTRATION NUMBER: 33
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 106; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Homo sapiens
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STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
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STATE: CA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-588-163-4
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JAPPLICANT: Carmichael, David F

APPLICANT: Anderson, David C

APPLICANT: Anderson, David C

APPLICANT: Anderson, David C

APPLICANT: Stricklin, George P

APPLICANT: Welgus, Howard G

TITLE OF INVENTION: Human Collagenase Inhibitor, Recombinant Vector System

TITLE OF INVENTION: Manufacture Of Same And Recombinant-DNA Method For

TITLE OF INVENTION: Manufacture Of Same

TITLE OF INVENTION: Manufacture Of Same

TITLE OF INVENTION: WIMBER: US/09/452,817

CURRENT APPLICATION NUMBER: 08/414,553

PRIOR APPLICATION NUMBER: 08/414,553

PRIOR APPLICATION NUMBER: 08/50,739

PRIOR APPLICATION NUMBER: 07/853,018
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       144 TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR 203
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4; Length 207;
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                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 INCH DISKETTE
COMPUTER: 18 PS/2
OPERATING SYSTEM: MS-DOS
SOFTWARE: WORD PERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION DATA:
FILING DATE: 05-JUN-1995
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/14498
FILING DATE: 13-DEC-1994
ATTORNEY, AGENT INFORMATION:
NAME: KENLEY K. HOOVER
REGISTRATION NUMBER: 40,302
REFERENCE/DOCKET NUMBER: PF148P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 301-610-5790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/09452817
Patent No. 6342374
GENERAL INFORMATION:
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SEQUENCE CHARACTERISTICS:
LENGTH: 207 AMINO ACIDS
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 184; Conservative
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                             MARYLAND
                                                       USA
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                             STATE: M. COUNTRY:
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Gaps
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57.4%; Score 579; DB 4; Length 106; 100.0%; Pred. No. 5.4e-64; tive 0; Mismatches 0; Indels
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APPLICANT: Murry, Lynn E.
TITLE OF INVENTION: A NOVEL TISSUE INHIBITOR OF
TITLE OF INVENTION: METALLOPROTEINASES
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS: A
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US-09-111-070-4
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US-09-111-070-4
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                                                                                                                                               INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
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IMMEDIATE SOURCE:
LIBRARY: METAL
CLONE: TIMP-3
             IMMEDIATE SOURCE
LIBRARY: META
CLONE: TIMP-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: PF
                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: FastSEQ Version 1.5 CURRENT APPLICATION DATA:
                                                                MOLECULE TYPE:
                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Hawkins, Phill APPLICANT: Murry, Lynn E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: A NOVEL TISSUE INH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           118 KTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTW 176
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                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM CON
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  79
                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               58 IRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFT 117
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                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                            STRANDEDNESS:
                                                                                                                               LENGTH:
                                                                                                                                                                                                TELEFAX:
                                                                                                                                                                                                                 TELEPHONE:
                                                                                                                                                                                                                                                             NAME: Luther, Barbara J.
REGISTRATION NUMBER: 33,954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VQYIHTEASESLCGL--KLEVNKYQYLLTGRVYDGKMYTGLCNFVERWDQLTLSQRKGLN 136
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                                                                                                               amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CA
                                                                                                                               211 amino acids
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                                                                                                                                                                                                 415-852-0195
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                               METALLOPROTEINASES
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                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IBM Compatible
                                                                                                                                                                                                                   415-855-0555
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Diskette
                                                           peptide
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40.8%; Pred. No. 1.3e-38;
tive 33; Mismatches 62
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Query Match

37.4%;

Score 377.5;

DB 2;

Length 211;

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                                                                                                                               US-08-588-163-3
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US-08-588-163-3
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                                                                                             Query Match
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                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Hawkin
APPLICANT: Murry,
                                                                                                                                                IMMEDIATE SOURCE:
LIBRARY: METAI
CLONE: TIMP-2
                                                                                                                                                                                                 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: Herewit CLASSIFICATION: 514 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Hawkins, Phillip R.
APPLICANT: MUTRY, Lynn E.
TITLE OF INVENTION: A NOVEL TISSUE INH.
TITLE OF INVENTION: METALLOPROTEINASES
NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION: TELEPHONE: 415-855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                  TELEX:
                                                                                                                                                                                                                                                                                                                                                                                  NAME: Luther, Barbara J.
REGISTRATION NUMBER: 33,954
REFERENCE/DOCKET NUMBER: PF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM CON OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               58 IRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFT 117
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                                                                                Local
                                                                                                                                                                                                                TOPOLOGY:
                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Incyte Pharmaceuticals, Inc
               1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ-TTLYQ------KYEIKMTKMYKGFQALG 53
                                                                                                                                                                                                                                                                                                                                  TELEFAX: 415-852-0195
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ---TTLYQRYEIKMTKMYKGFQALGDAAD 57
ĊSĊSPVHPQQAFCNADVVIRAKAVSEKĖVDSGNDIYGNPIKRIQYĖIKQIKMFK----
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94304
                                                                                Similarity
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                                                                                                                                                                                                                                                               220 amino acids
                                                                                                                                                                METALLOPROTEINASES
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                                                                                                                                                                                                                linear
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                                                            37.4%; Score 377.5; DB 1;
41.3%; Pred. No. 1.4e-38;
... Mismatches 66;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Phillip R.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. 1.3e-38;
                                                                                                                                                                                                                                                                                                                                                                                    PF-0053
                                                                                            Length 220;
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                                                                Indels
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                                                            Gaps
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CLASSIFICATION: <Unknown>
                                                                                                                                                                                                             Sequence 4, Application US/08849764C Patent No. 6300310 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
US-09-262-087-4
; Sequence 4, Application US/09262087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 210 amino acids
                                                                                                                                                                                                                                                                APPLICANT: GREENE, JOHN M
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Flopp
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                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 73; Conserv
                                                                                      173 LCTW 176
                                                                                                                         200 SCAW 203
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9
                    PEKDIEPIYTAPSSAVCG-VSLDVGGKKEYLIAGKAEGDGKMHITLCDFIVPWDTLSTTQ 140
                                                                                         54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWNSLSLAQ 112
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54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWNSLSLAQ 112
                                                                     113 RRGFTKTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPG 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27 CSCSPVHPQQAFCNADVVIRAKAVSEKEVDSGNDIYGNPIKRIQYEIKQIKMFK-----G 81
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                                                                                                                                                                                                                                                                                                                                                       QF
                                                                                                                                                                                                                                                              Sequence 3, Application US/09111070
Patent No. 594430.
Patent INFORMATION:
APPLICANT: Hawkins, Phillip R.
APPLICANT: Hurry, Lynn E.
APPLICANT: MIRRY, LYNN E.
TITLE OF INVENTION: METALLOPROTEINASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ilarity 41.3%; Score 377.5; ilarity 41.3%; Pred. No. 1.4 Conservative 27; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/09/111,070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastESD Version 1.5
CURRENT APPLICATION DUMBER: US/09/111,07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/588,163
FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Luther, Barbara J.
REGISTRATION NUMBER: 33,954
REFERENCE/DOCKET NUMBER: PF-
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LIBRARY: METALLOPROTEINASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS: LENGTH: 220 amino acids TYPE: amino acid STRANDEDNESS: single
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Best Local Similarity
Matches 76; Conserv
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CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: line
MOLECULE TYPE: p
IMMEDIATE SOURCE:
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                                                                                                                                       173 LCTW 176
                                                                                                                                                                          SCAW 203
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STATE: C
COUNTRY:
                                                                                                                                                                                                                               RESULT 11
US-09-111-070-3
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113 RRGFTKTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPG 172
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24 CTCSPSHPQDAFCNSDIVIRAKVVGKKLVKEGPFGTLV--YTIKQMKMYRGFTKMPHV-- 79
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
ODERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
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TITLE OF INVENTION: HUMAN TISSUE INHIBIT
METALLOPROTEINASE-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08/849,764C
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ADDRESSEE: HUMAN GENOME SCIENCES,
STREET: 9410 KEY WEST AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: MICHELE M. WALES
REGISTRATION NUMBER: 43,975
REFERENCE/DOCKET NUMBER: PF148US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 301-309-8439
TELEFRAX: 301-309-8439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-08-849-764C-4
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                                                                                                                Sequence 10, Application US/08463261B Patent No. 6448042 GENERAL INFORMATION:
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FILING DATE: 05-UN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US
FILING DATE: 13-FEB-1994
ATTORNEY/AGENT INFORMATION:
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NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: HUWAN GENOME SCIENCES, INC
STREET: 9410 KEY WEST AVENE
                                                                      APPLICANT: John M. Greene and Craig A. Rosen
TITLE OF INVENTION: Human Tissue Inhibitor of Metalloproteinase-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 210 amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                    118 KTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTW 176
                                                                                                                                                                                                                                                  136 YRYHLGC-NCKIKSCYYLPCFVTSKNECLWTDMLSNFGYPGYQSKHYACIRQKGGYCSW 193
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APPLICATION NUMBER: US
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                                                                                                                                                                                                                                                                                                                                                                                                         24 CTCSPSHPQDAFCNSDIVIRAKVVGKKLVKEGPFGTLV--YTIKQMKMYRGFTKMPHV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: A. ANDERS BROOKES REGISTRATION NUMBER: 36,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
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40.8%;
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Pred. No. 6.1e-38;
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RESULT 15
US-08-849-764C-3
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INFORMATION FOR SEQ ID NO:
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APPLICATION NUMBER: PCT/US
FILING DATE: 13-DEC-1994
ATTORNEY/AGENT INFORMATION:
NAME: KENLEY K. HOOVER
REGISTRATION NUMBER: 40,30
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LENGTH: 210 AMINO ACID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              136 YRYHLGC-NCKIKSCYYLPCFVTSKNECLWTDMLSNFGYPGYQSKHYACIRQKGGYCSW 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               118 KTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTW 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       58 IRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFT 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
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COUNTRY: USA

ZIP: 20850

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PAtentin Release #1.0, Version #1.30

CURRENT APPLICATION NUMBER: US/08/849,764C
                                                                                                                                                                                                         NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: HUMAN GENOME SCIE
STREET: 9410 KEY WEST AVENUE
                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: HUMAN TISSUE INHIBITOR OF
                                                                                                                                                                                                                                                                                                                                         APPLICANT: GREENE, JOHN M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --YIHTEASESLCGL--KLEVNKYQYLLTGRVYDGKMYTGLCNFVERWDQLTLSQRKGLN 135
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Pred. No. 6.1e-38;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
36.6%; Score 369.5; DB 4; Length 218;
Best Local Similarity 41.0%; Pred. No. 1.3e-37;
Matches 75; Conservative 28; Mismatches 65; Indels 15.
FILING DATE: 19-Sep-1997
CLASSIFICATION: «Unknown»
ATTORNEY AGENT INFORMATION:
NAME: MICHELE M. WALES
REGISTRATION NUMBER: 43,975
REFERENCE/DOCKET NUMBER: PF148US
TELEPHONE: 301-309-8439
INFORMATION FOR SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Search completed: December 17, 2002, 15:06:33 Job time: 15.5931 secs
                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
TYPE: amino acid
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 3:
US-08-849-764C-3
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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                                                                             Database :
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Maximum DB seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
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Perfect score:
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                                                                                                                                                                                                                                                number of hits satisfying chosen parameters:
PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
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1009
1 CTCVPPHPQTAFCNSDLVIR.....ACLPREPGLCTWQSLRSQIA 184
                                                                                                                                                                                                                                                                                      283224 seqs, 96134422 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                               December 17, 2002, 15:04:31; Search time 18.4 Seconds (without alignments) 961.344 Million cell updates/sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                                      283224
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

ţ	3	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	ω	2	1	No.	Result
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[DYOTA: 0 707011 F (histidine-tRNA lig	metalloproteinase	tumor necrosis fac	mucin 2, intestina	probable Tall-like	fixC protein homol	22K extracellular		hypothetical prote	metalloproteinase	tissue inhibitor o	metalloproteinase	metalloproteinase	metalloproteinase	metalloproteinase	collagenase inhibi	metalloproteinase	metalloproteinase	matrix metalloprot		Description								

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30
69.5	70	70	70	70.5	71	71	71	71.5	71.5	71.5	71.5	72.5	73	73	73.5
6.9	6.9	6.9	6.9	7.0	7.0	7.0	7.0	7.1	7.1	7.1	7.1	7.2	7.2	7.2	7.3
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dermatopontin prec	gene 45 protein -	apolipoprotein H p	nifM protein - Kle	molybdenum cofacto	hypothetical prote	hypothetical prote	hypothetical prote	epidermal growth f	hypothetical prote	ketol-acid reducto	hypothetical prote	hypothetical prote	probable thioester	prolyl 4-hydroxyla	RNA 1 protein - to

ALIGNMENTS

A;Note: carbohydrate binding sites were determined R;Stricklin, G.P.; Welgus, H.G. J. Biol. Chem. 258, 12252-12258, 1983 A;Title: Human skin fibroblast collagenase inhibitor. A;Reference number: A20595; MUID:84032401; PMID:6313647 A;Reference number: A20595 A;Molecule type: protein A;Residues: 24-44, 'L', 46 <str> A;Molecule type: protein A;Residues: 24-44, 'L', 46 <str> A;Note: six disulfide bonds are present R;Rapp, G.; Freudenstein, J.; Klaudiny, J.; Mucha, J.; Wempe, F.; Zimmer, M.; Scheit, K.; DNA, Cell Biol. 9, 479-485, 1990 A;Title: Characterization of three abundant mRNAs from human ovarian granulosa cells. A;Reference number: A35826; MUID:91025550; PMID:2171551 A;Accession: A35826 A;Molecule type: mRNA A;Residues: 1-207 <rap> A;Cross-references: GB:M38188 A;Cross-references: GB:M38188 R;Van Ranst, M.; Norga, K.; Masure, S.; Proost, P.; Vandekerckhove, F.; Auwerx, J.; Van I Cytokina 3, 221-239, 1991 A;Title: The cytokine-protease connection: identification of a 96-kD THP-1 gelatinase and A;Reference number: A48417; MUID:91355647; PMID:1653055</rap></str></str>	A;Cross-references: GB:X03124; NID:g37182; PIDN:CAA26902.1; PID:g37183 R;Gasson, J.C.; Golde, D.W.; Kaufman, S.B.; Westbrook, C.A.; Hewick, R.M.; Kaufman, R.J.; Nature 315, 768-771, 1985 A;Title: Molecular characterization and expression of the gene encoding human erythroid-[A;Reference number: A93363; MUID:85240567; PMID:3839290 A;Accession: A93363 A;Molecule type: mRNA A;Residues: 1-207 <gas> R;Carmichael, D.F.; Sommer, A.; Thompson, R.C.; Anderson, D.C.; Smith, C.G.; Welgus, H.G. A;Title: Primary structure and cDNA cloning of human fibroblast collagenase inhibitor. A;Reference number: A23534 A;Molecule type: mRNA A;Residues: 1-207 <car> A;Accession: A23534 A;Molecule type: mRNA A;Residues: 1-207 <car> A;Residues: 1-207 <car> A;Note: parts of this sequence were confirmed by protein sequencing</car></car></car></gas>	RESULT 1 ZYHHUEP ZYHHUEP ZYHHUEP Metalloproteinase tissue inhibitor 1 precursor [validated] - human N;Alternate names: erythroid potentiating activity (EPA); fibroblast collagenase inhibito C;Species: Homo sapiens (man) C;Accession: A93372; A93363; A23534; A20595; A35826; A48417; S20318; S15872; I52912; S664 R;Docherty, A.J.P.; Lyons, A.; Smith, B.J.; Wright, E.M.; Stephens, P.E.; Harris, T.J.R.; Nature 318, 66-69, 1985 A;Title: Sequence of human tissue inhibitor of metalloproteinases and its identity to ery A;Reference number: A93372; MUID:86040463; PMID:3903517 A;Accession: A93372 A;Molecule type: mRNA A;Residues: 1-207 < DOC>

Tue D

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Decies: Papio sp. (baboon)
C;Species: J6-Nov-1995 #sequence_revision 08-Feb-1996 #text_change 16-Jul-1999
C;Accession. J64303
R;Forcugh, R.; Nikkari, S.T.; Hasenstab, D.; Lea, H.; Clowes, A.W.
Gene 163, 267-271, 1995
A;Title: Cloning and characterization of a cDNA encoding the baboon tissue inhibitor of A;Reference number: J64303; MUD:96011646; PMID:7590279
A;Reference number: J64303
A;Rocession: J64303
A;Rocession: J64303
A;Rocession: J64303
A;Rocession: J64303
A;Rosidues: 1-207 cFGN>
A;Cross-references: GB:L37295; NID:9561545; PIDN:AAA99943.1; PID:9561546
A;Experimental source: smooth muscle cell
C;Comment: This protein, a member of the tissue inhibitor of matrix metalloproteinase for and influences the proteinase activity. It has a role as a physiological molecule fc C;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
C;Genetics:
C;Genetics: A;Genetics: A;Genetics:
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C; Species: Bos pringenius taurus (cartie)
C; Species: Bos pringenius taurus (cartie)
C; Species: Bos pringenius taurus (cartie)
C; Accession: A35685; B34468; B29712; A34833; I46979
C; Accession: A35685; B34468; B29712; A34833; I46979
R; Freudenstein, J. J. Wagner, S.; Luck, R.M.; Einspanier, R.; Scheit, K.H.
Biochem Biophys. Res. Commun. 171, 250-256, 1990
A; Title: mRNA of bovine tissue inhibitor of metalloproteinase: sequence and expression A; Reference number: A35685; MUID:90365711; PMID:2393392
A; Molecule type: mRNA
A; Residues: 1-207 < FREA
A; Residues: 1-207 < FREA
A; Cross-references: GB:M60073; NID:g163760; PIDN:AAA30784.1; PID:g163761
A; Experimental source: ovary CDNA library
C; Derock, Y.A.; Yean, T.D.; Ratzkin, B.J.; Lu, H.S.; Langley, K.E.
A; Title: Purification and characterization of two related but distinct metalloproteinase A; Reference number: A34468; MUID:9008914; PMID:2551903
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A;Residues: 24-52,'X',54-57,'LY',60-61,'L',63-65,'L',67-68,'P' <DEC>
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Pred. No. 2.4e-93;
2; Mismatches 0;
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98.9%;
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Best Local 9
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A; Title: Natural human monocyte gelatinase and its inhibitor.

A; Reference number: S15872; MUID:91285112; PMID:1647974

A; Reference number: S15872; MUID:91285112; PMID:1647974

A; Rocession: S15872

A; Molecule type: protein

A; Residues: S2, XX, 25, XX, 37-42, XX, 44, XX, 46, XX, 48-51 <FEB>
A; Roperimental source: peripheral blood monocytes

A; Roperimental source: peripheral blood monocytes

B; Williamson, R.A.; Marston, F.A.O.; Angal, S.; Koklitis, P.; Panico, M.; Morris, H.R.; Biochem J. 268, 267-274, 1990

A; Title: Disulphide bond assignment in human tissue inhibitor of metalloproteinases (TIM A; Reference number: A38978; MUID:90303199; PMID:2163605

A; Title: Disulphide bond assignment in human contents: annotation; disulphide bonds

R; Opbroek, A.; Kenney, M.C.; Brown, D. Curr. Eye Res. 12, 877-883, 1993

A; Title: Characterization of a human corneal metalloproteinase inhibitor (TIMP-1).

A; Reference number: 152912; MUID:94123576; PMID:7507419

A; Stetanslated from GB/EMBL/DDBJ
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A.Molecule type: protein
A.Experimental source: polymorphonuclear leukocytes
C.Comment: This protein, found in a variety of body fluids, complexes with metalloprotein
C.Comment: The remarkable heat stability of this protein may be due to disulfide bond for G.Genetics:
A.Gene: GDB:TIMP1; CLG1; TIMP
A.Cross-references: GBB:119615; OMIM:305370
A.Map position: Xpl1.3-Xpl1.23
C.Superfamily: metalloproteinase inhibitor
C.Keywords: erythropoiesis; glycoprotein; metalloproteinase inhibitor; mitogen
A; Molecule type: protein
A; Residues: 'X', 27-35,'X', 37-52 < VAN>
A; Residues: 'X', 25,'X', 27-35,'X', 37-52 < VAN>
A; Experimental source: monocytic cell line THP-1
A; Note: sequence modified after extraction from NCBI backbone
A; Note: sequence modified after extraction from NCBI backbone
A; Note: sequence incorrectly identified as 96K gelatinase
A; Note: sequence incorrectly identified 
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A; Residues: 1-207 <RES
A; Cross-references: GB:S68252; NID:g545022; PIDN:AAD14009.1; PID:g4261709
R; Tribbel, S.; Blaeser, J.; Gote, T.; Pelz, G.; Schueren, E.; Schmitt, M.; Tschesche, H. Eur. 71, 714-719, 1995
A; Tile: Evidence for the tissue inhibitor of metalloproteinases-1 (TIMP-1) in human pol A; Reference number: S66461; MUID:95377303; PMID:7649172
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100.0%; Pred. No. 4.7e-94;
ive 0; Mismatches 0;
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A;Residues: X',25,'X',27-35,'X',37-38 <OST>
A;Rxperimental source: rheumatoid synovial fluid
R;Opdenakker, G.; Masure, S.; Proost, P.; Billiau
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Matches 184; Conservative
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A;Experimental source: culture medium of aortic endothelial cells R;Kaczorek, M.; Honore, N.; Ribes, V.; Dehoux, P.; Cornet, P.; Cartwright, Bio/Technology 5, 595-598, 1987
A;Title: Molecular cloning and synthesis of biologically active human tissu A;Reference number: A29712
A;Accession: B29712
A;Molecule type: protein A;Residues: 24-37 cKAC>
A;Rote: protein inhibits angiogenesis A;Rote: protein inhibits angiogenesis R;Moses, M.A.; Sudhalter, J.; Langer, R.
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A; Residues: 24-51 < MOS>
A; Experimental source: cartilage
A; Experimental source: cartilage
R; Ch, T.; Kobayashi, K.; Yamashita, S.; Kikuchi, M.; S
B Reprod. 50, 835-844, 1994
A; Mele: Tissue inhibitor of metalloproteinases (TIMP-1)
A; Reference number: 146979; MUID:94257757; PMID:8199264
A; Accession: 146979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Description: regulation of extracellular matrix remodeling by inhibition of matrix met possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiating A;Note: transcription induced by cytokines, tumor promoters, and anti-inflammatory agent A;Note: TIMP-1 and TIMP-3 have distinct but overlapping tissue-specific expression patters.
                                                                                              R;Smith, G.W.; Goetz, T.L.; Anthony, R.V.; Smith, M.F. Endocrinology 134, 344-352, 1994
A;Title: Molecular cloning of an ovine ovarian tissue
                                                                                                                                                                              metalloproteinase tissue inhibitor 1 precursor [similarity] - sh C;Species: Ovis orientalis aries, Ovis ammon aries (domestic she C;Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change C;Accession: I46964
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A;Title: Identification of an inhibitor of neovascularization A;Reference number: A34833; MUID:90288433; PMID:1694043 A;Accession: A34833
                        A;Reference number: I46964; MUID:94102210; PMID:8275949 A;Accession: I46964
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A;Status: preliminary; translated
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Pred. No. 2.3e-82;
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metalloproteinase inhibitor 1 precursor - rabbit
N;Alternate names: TIMP-1; tissue inhibitor of metalloproteinases
C;Specias: Oryctolagus cuniculus (domestic rabbit)
C;Date: 30-Jun-1992 #sequence_revision 12-Apr-1996 #text_change 18
C;Accession: A3335; A30864
R;Horowitz, S.; Dafni, N.; Shapiro, D.L.; Holm, B.A.; Notter, R.H.
J. Biol. Chem. 264, 7092-7095, 1989
A;Title: Hyperoxic exposure alters gene expression in the lung. If
A;Reference number: A33350; MUID:89214135; PMID:2708356
A;Accession: A33350
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Mol. Cell. Endocrinol. 83, 65-71, 1992
A;Title: Differential screening of ovarian cDNA libraries
A;Reference number: I47061; MUID:92201478; PMID:1312961
A;Accession: I47061
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A33350
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A;Cross-references: GB:S96211; NID:g247729; PIDN:AAB21865.1; C;Superfamily: metalloproteinase inhibitor
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C;Date: 04
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A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Accession: I47061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ollagenase inhibitor - pig
;Species: Sus scrota domestica (domestic pig)
;Date: 04-Sep-1997 #sequence_revision 04-Sep-1997 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                   SQIA 184
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                                                                                                                                                                                                                                                                                                                                                                                                                                  IYTPAMESVCGYFHRSQNRSQEFLIAGQLWNGHLHITTCSFVAPWNSLSSAQRQGFTEIY
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83.7%;
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Pred. No. 4.7e-80;
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Pred. No. 1.2e-80
0; Mismatches 1
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3; Mismatches
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                                                                                                                              #text_change 18-Jun-1999
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A.Map position: X
A.Introns: 41/3; 68/3; 110/3; 152/3
A.Introns: 41/4P-1 and TIMP-1 and TIMP-1 and TIMP-2 possess erythroid potentiation as A.Intron and TIMP-3 have distinct but overlapping tissue-specific expression patt C.Superfamily: metalloproteanase inhibitor
C.Keywords: erythropoiesis; extracellular matrix; glycoprotein; metalloproteinase inhibitor
F):25-205/Product: metalloproteinase inhibitor 1 #status predicted <MAT>-
F):25-94,27-123,37-148,151-197,156-161,169-189/Disulfide bonds: #status predicted
F):54,102/Binding site: carbohydrate (Asn) (covalent) #status predicted
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Mylternate names: TIMP-1

C.Species: Rattus norvegius. (Norway rat)

C.Species: Rattus norvegius.

R.A.Cacession: 302.57; Mylto: 301.64

A.Title: Cloning of the cDNA encoding rat tissue inhibitor of metalloproteinase 1 (TIMI A.Reference number: JC2557; MUID: 95011636; PMID: 7926820

A.Status: preliminary

A.M.Cacession: JA.A.; Shiverick, K.T.; Ogilvie, S.; Buhi, W.C.; Raizada, M.K.

A.Cacession: JA.S.; Shiverick, K.T.; Ogilvie, S.; Buhi, W.C.; Raizada, M.K.

A.Cacession: Jan. Shiverick, K.T.; Ogilvie, S.; Buhi, W.C.; Raizada, M.K.

A.Title: Angiotensin II induces secretion of plasminogen activator inhibitor 1 and at: A.Title: Angiotensin II induces secretion of plasminogen activator inhibitor 1 and at: A.Title: Angiotensin II induces secretion of plasminogen activator inhibitor 1 and at: A.Residues: 24-16, 18, 18, 18, 18, 440-42, 17, 44 < CLS.

A.Title: M.T.; McCourt, D.W.; Partridge, N.C.; Jeffrey, J.J.

A.M.Cacession: Biochem: Biophys: 292, 402-410, 1999

A.Accession: Biochem: Development and sequence analysis of two rat tissue inhibitors of metalloprof A.Reference number: 220325, MUID: 92117648; PMID: 1309971

A.Accession: S20326

A.Accession: S20326

A.Accession: Radius: 24-45 < ROS

C.Function: regulation of extracellular matrix remodeling by inhibition of matrix m. possably controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiatia, A.Noces Tulion: regulation induced by Cytokines, tumor promoters, and anti-inflammatory agent, A.Noces Tulion: Timp-1 and TIMP-3 and TIMP-3 and TIMP-3 and TIMP-3 and anti-inflammatory and analysic of the control of
A;Residues: 168-193,'L',195-205 <SKU>
A;Cross-references: GB:V00755; GB:J00425; NID:g51554; PIDN:CAA24132.1; PID:g817965
A;Note: authors thought this clone represented a form of interferon beta
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 120
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73.7%; Pred. No. 3.9e-69;
ive 25; Mismatches 21
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                                                                                                                                                                                                                                                      A; pescription: regulation of extracellular matrix remodeling by inhibition of matrix met possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiating A; Note: transcription induced by cytokines, tumor promoters, and anti-inflammatory agent A; Note: TIMP-1 and TIMP-3 have distinct but overlapping tissue-specific expression patte C; Superfamily: metalloproteinase inhibitor C; Keywords: erythropoiesis; extracellular matrix; glycoprotein; metalloproteinase inhibitor F;1-23/Domain: signal sequence #status predicted AsIG. F;24-91,26-122,36-147,150-196,155-160,168-188/Disulfide bonds: #status predicted F;53,101/Binding site: carbohydrate (Asn) (covalent) #status predicted
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A. Residues: 1-51, 'K', 55-66, 'M', 67-116, 'KF', 119-120, 'N', 122-138,'V', 140-142, 'KN', 144-193,
A. Cross-references: GB-M28312; NID: G193040; PIDN: AAB42179.1; PID: G193042
R. Skup, D.; Windass, J. D.; Sor, F.; George, H.; Williams, B.R.G.; Fukuhara, H.; De Maeye
Nucleic Acids Res. 10, 3069-3084, 1982
A. Title: Molecular cloning of partial cDNA copies of two distinct mouse IFN-beta mRNAs.
A. Reference number: A93424; MUID: 82247191; PMID: 6179042
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A, Molecule type: mRNA
A, Residues: 1-205 < EDW>
A, Residues: 1-205 < EDW>
A, Cross-references: GBX04684; NID: g49702; PIDN: CAA28387.1; PID: g49704
A, Experimental source: embryonic fibroblast cDNA library
B, Gewert, D.R.; Coulombe, B.; Castelino, M.; Skup, D.; Williams, B.R.G.
ENBO J. 6, 651-657, 1987
A, Title: Characterization and expression of a murine gene homologous to human EPA/TIMP: A, Reference number: A26633; MUID: 87218524; PMID: 3034603
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C;Species: Mus musculus (house mouse)
C;Date: 05-0ct-1988 #sequence revision 12-Apr-1996 #text_change 18-Jun-1999
C;Accession: A26917; A26106; Ā26633; A05276
B;Johnson, M.D.; Housey, G.M.; Kirschmeier, P.T.; Weinstein, I.B.
Mol. Cell. Biol. 7, 2821-2829, 1987
A;Title: Molecular cloning of gene sequences regulated by tumor promoters and mitogens A;Reference number: A26917, MUJD:88038821; PMID:3670294
A;Accession: A26917
A;Molecule type: mRNA
A;Residues: 1-205 < AJOH>
A;Cross_references: GB:M17243; NID:9202111; PIDN:AAA40471.1; PID:9202112
A;Cross_references: GB:M17243; NID:9202111; PIDN:AAA40471.1; PID:9202112
A;Experimental source: embryonic fibroblast cDNA library
N;Edwards, D.R.; Waterhouse, P.; Holman, M.L.; Denhardt, D.T.
Nucleic Acids Res. 14, 8863-8878, 1986
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                                                                                  A;Cross-references: GB:J04712; NID:g165742; PIDN:AAA31478.1; PID:g165743
A;Experimental source: hyperoxi-exposed lung of New Zealand White rabbits
C;Comment: Expression of this protein in the lung is induced 6-fold by hyperoxia.
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es 21; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Score 817.5;
; Pred. No. 8.9e
11; Mismatches
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Best Local Similarity 81.7%;
Matches 147; Conservative 1
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A;Molecule type: mRNA
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179

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A;Description: regulation of extracellular matrix remodeling by inhibition of matrix me possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiatir c;Superfamily: metalloproteinase inhibitor C;Keywords: erythropoiesis; extracellular matrix; metalloproteinase inhibitor; mitogen F;1-26/Domain: signal sequence #status predicted <SIG>F;27-220/Product: metalloproteinase inhibitor 2 #status experimental <MAT>F;27-98,29-127,39-152,154-201,159-164,172-193/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Shimizu, S.; Malik, N., 201-292, 1992
Gene 114, 291-292, 1992
A;Title: Cloning and sequencing of the cDNA
A;Title: Cloning and sequencing of the cDNA
A;Title: Cloning and sequencing of the cDNA
                                                                                                                                                                                                              A;Molecule type: protein
A;Residues: 27-46,'HLX',50-52,'LX',55-56,'DXX',60,'X',62 <KI2>A;Residues: 27-46,'HLX',50-52,'LX',55-56,'DXX',60,'X',62 <KI2>A;Rote: this sequence has been revised in reference S18428
C;Function:
                                                                                                                                                                                                                                                                                                      A; Title: Purification and characterization A; Reference number: S15987; MUID:91226375;
                                                                                                                                                                                                                                                                                                                                                                A; Molecule type: protein
A; Residues: 27-46, 'H', 48,50-53, 'VD', 56, 'DY'
R; Kishi, J.I.; Ogawa, K.; Yamamoto, S.; Hay
                                                                                                                                                                                                                                                                                                                                                                                                                                               DDMRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Title: Differential regulation of TIMP-1 and TIMP-2 mRNA A;Reference number: JC1234; MUID:92347695; PMID:1639268 A;Accession: JC1234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:X62622; NID:g54801; PIDN:CAA44491.1; PID:g54802
A;Experimental source: 3T3 fibroblast, strain Balb/c
R;Leco, K.J.; Hayden, L.J.; Sharma, R.R.; Rocheleau, H.; Greenberg, A.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Mus musculus (house mouse)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C;Accession: JH0683; JC1234; S18428; S15987; S26189
R;Shimizu, S.; Malik, K.; Sejima, H.; Kishi, J.; Hayakawa, T.; Koiwai, O.
                                                                                                                                                                                                                                                                                          A; Reference number: A; Accession: S15987
                                                                                                                                                                                                                                                                                                                                                                                                                         A; Reference number: S18428; MUID:92244125; PMID:1667327 A; Accession: S18428
                                                                                                                                                                                                                                                                                                                                                    Matrix 11, 10-16, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gene 117,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: mRNA
A; Residues: 1-220 <SHI>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             metalloproteinase inhibitor 2 precursor - mc N;Alternate names: TIMP-2; tissue inhibitor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;Molecule type: mRNA;Residues: 1-11,'H',13-20,'L',22-194,'E',196-220 <LEC>;Cross-references: GB:M93954; NID:g202053; PIDN:AAA40446.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;Keywords: erythropoiesis; extracellular matrix; glycoprotein; metalloproteinase;1-23/Domain: signal sequence #status predicted <SIG>;24-217/Product: metalloproteinase inhibitor 1 #status experimental <MAT>
                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;101,130/Binding site: carbohydrate (Asn)
   Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11, 373, 1991
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      K.J.; Hayden, L
7, 209-217, 1992
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             128;
   . Similarity 77; Conserv
     Conservative
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71.5%;
                   37.9%;
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 Score 382.5; DB
Pred. No. 5.9e-31
7; Mismatches 6
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Pred. No. 3.
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                                                                                                                                                                                                                                                                                                                                                                   Hayakawa,
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or of metalloproteinases
                                                                                                                                                                                                                                                                                                            of a new tissue PMID:1851244
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                                     Length
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                                       220;
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 15;
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A43429
                                                       A; Reference number: A43429;
A; Accession: A43429
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                   A; Molecule type: mRNA
A; Residues: 1-212 < PAV>
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C;Superfamily:
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 A;Cross-references:
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Best Local S
Matches 77
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         176
GB:M94531; NID:g211901;
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C;Species: Gallus gallus (chicken)
C;Date: 04-Mar-1993 #Requence_revision 12-Apr-1996 #text_change
C;Accession: A43429; A39043
R;Pavloff, N.; Staskus, P.W.; Kishnani, N.S.; Hawkes, S.P.
J. Biol. Chem. 267, 17321-17326, 1992
A;Title: A new inhibitor of metalloproteinases from chicken: Chl
                                                                                                                                                                                                                                                                                                  metalloproteinase inhibitor 3 precursor - chicken N; Alternate names: 21K extracellular matrix protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R;Santoro, M.; Battaglia, C.; Zhang, L.; Carlomagno, F.; Martelli, M.L.; Salvatore Exp. Cell Res. 213, 398-403, 1994
A;Title: Cloning of the rat tissue inhibitor of metalloproteinases type 2 (TIMP-2) A;Reference number: I53415; MUID:94326839; PMID:8050496
A;Accession: I53415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tissue inhibitor of metalloproteinase type 2 - rat C;Species: Rattus sp. (rat) C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 C;Accession: I53415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Status: preliminary; translated from GB/EMBL/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KKSLNHRYQMGC-ECKITRCPMIPCYISSPDECLWMDWVTEKSINGHQAKFFACIKRSDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CSCSPVHPQQAFCNADVVIRAKAVSEKEVDSGNDIYGNPIKRIQYEIKQIKMFK-----G
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        37.9%; Score 382.5; DB 2
41.8%; Pred. No. 5.9e-31;
                                                                                                           metalloproteinases from chicken: MUID:92381050; PMID:1512267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NID:g619232; PIDN:AAC60687.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
PIDN:AAA48813.1; PID:g211902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65;
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                                                                                                                                                                                                                                                                                                        TIMP-3; tissue
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                                                                                                                                     ChIMP-3.
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                                                                                                                                                                                                                                                    18-Jun-1999
                                                                                                                                                                                                                                                                                                           inhibitor
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C/Function:
C/F
                                                                                                                                                                                                                                                                                                                                                                                                                   Metalloproteinase inhibitor 2 precursor - rat
NyAlternate names: TIMP-2; tissue inhibitor of metalloproteinases 2
C;Species: Rattus norvegicus (Norway rat)
C;Date: 10.5ep-1999 #sequence revision 10-Sep-1999 #text_change 10-Sep-1999.
C;Accession: $45683; $20325; $60160
C;Accession: $45683; $20325; $60160
R;Cook, T.F.; Burke, J.S.; Bergman, K.D.; Quinn, C.O.; Jeffrey, J.J.; Partridge, N.C. Arch. Blochem. Blophys. 311, 313-320, 1994
A;Title: Cloning and regulation of tat tissue inhibitor of metalloproteinases-
A;Reference number: $45683; MUID:94263207; PMID:8203893
A;Molecule type: mRNA
A;Residues: 1-220 <COO>
A;Coss-references: GB:U14526; NID:9540204; PIDN:AAA21553.1; PID:9540205
R;Rosidues: 1-220 <COO>
A;Cross-references: GB:U14526; NID:9540204; PIDN:AAA21553.1; PID:9540205
R;Rosidues: 1-220 <COO
A;Cross-references: GB:U14526; NID:9540204; PMID:1309971
A;Title: Purification and sequence analysis of two rat tissue inhibitors of metallopry
A;Rosidues: S20325; MUID:92117648; PMID:1309971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein
A; Redidues: 27-48 < ROS>
A; Redidues: 27-48 < ROS>
B; Gibbons, K.L.; O'Grady, R.L.; Piper, A.A.
Submitted to the EMBL Data Library, June 1995
A; Description: Rat tissue inhibitor of metalloproteinases-2: CDNA cloning and sharecence number: $60160
A; Redcession: $60160
A; Accession: $60160
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 1-6,'8', 8-20,'V', 22-152,'E', 154-220 < GIB>
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    113 RRGFTKTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPG 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141 KKSLNHRYQMGC-QCKITRCPMIPCYISSPDECLWMDWVTEKSINGHQAKFFACIKRSDG 199
                                                          RRGFTKTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPG 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27 CSCSPVHPQQAFCNADVVIRAKAVSEKEVDSGNDIYGNPIKRIQYEIKQIKMFK----G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWNSLSLAQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 37.6%; Score 379.5; DB 1 Best Local Similarity 41.3%; Pred. No. 1.2e-30; Matches 76; Conservative 28; Mismatches 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Accession: S20325
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                                                                                                                                                                                                                                           SCAW 179
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                                                                                                                                                                                                                                   셤
C.Function:
A.Description: regulation of extracellular matrix remodeling by inhibition of matrix met possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiating C.Superfamily: metalloproteinase inhibitor
C.Keywords: erythropolesis; extracellular matrix; metalloproteinase inhibitor; mitogen F;3-196/Product: metalloproteinase inhibitor; latatus predicted AMIN-F;3-196/Product: metalloproteinase inhibitor 2 #status predicted AMIN-F;3-196/Froduct: metalloproteinase inhibitor 2 #status predicted AMIN-F;3-103,15-128,130-177,135-140,148-169/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
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N;Alternate names: TIMP-2; tissue inhibitor of metalloproteinases 2
C;Species: Cricetulus longicaudatus (long-tailed hamster)
C;Date: 06-Jan-1995 #sequence_revision 12-Apr-1996 #text_change 18-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60 FVYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKT 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S2 YIYTEASESLCGV--KLEVNKYQYLITGRVYEGKVYTGLCNWYEKWDRLTLSQRKGLNHR 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWNSLSLAQ 112
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25 CTCVPIHPQDAFCNSDIVIRAKVVGKKLMKDGPFGTMRYTVKQMKMYRGFQIM---PHVQ 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ-TTLYQ-----RYEIKMTKMYKGFQALG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37.8%; Score 381.5; DB 1; Length 212; 40.1%; Pred. No. 7.2e-31; ive 32; Mismatches 67; Indels 7,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 67; Indels
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R;Suzuki, Y.
submitted to the EMBL Data Library, November 1993
A;Reference number: S38624
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Matches 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         71; Conservative
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Best Local Similarity
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A; Residues: 1-196 <SUZ>
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Genomics 19, 86-90, 1994
Genomics 19, 86-90, 1994
A;Title: Cloning of the cDNA encoding human tissue inhibitor of metalloproteinases-3
A;Reference number: A49614; MUID:94245184; PMID:8188246
A;Accession: A49614
                                                                                                                                                                                                                                                                                                                                                                                                                                              R; Wilde, C.G.; Hawkins, P.R.; Coleman, R.T.; Levine, W.B.; Delegeane, A.M.; Okamoto, P.N. DNA Cell Biol. 13, 711-718, 1994
A; Title: Cloning and characterization of human tissue inhibitor of metalloproteinases-3 A; Reference number: I53025; MUID:95290091; PMID:7772252
A; Accession: I53025
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A;Residues: 14-20,'R','23-211 <APT>
ms-references: GB:L15078; NID:g407034; PIDN:AAA21815.1; PID:g407035
A
primental source: placenta cDNA library
R;Apte, S.S.; Olsen, B.R.; Murphy, G.
J. Biol. Chem. 270, 14313-14318, 1995
A;Title: The gene structure of tissue inhibitor of metalloproteinases (TIMP)-3
A;Reference number: A56937; MUID:95301511; PMID:7782289
A;Accession: C56937
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A; Residues: 1-15,'W','I,'T','20-21,'PR',24-201,'X',203-211 <RES>
A; Cross-references: EMBL: 230183; NID: 9520931; PIDN: CAA82918.1; PID: 9520932
A; Experimental source: fibroblast cell line WI-38
R; Appre, S.S.; Mattei, M.G.; Olsen, B.R.
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A;Residues: 'X',25,'XX',28,'XX',30-35,'X',37,'X',39-41 <KIS>
R;Wick, M.; Buerger, C.; Bruesselbach, S.; Lucibello, F.C.; Mueller, R.
J. Biol. Chem. 269, 18953-18960, 1994
A;Title: A novel member of human tissue inhibitor of metalloproteinases (TIMP)
A;Reference number: 138023; MUID:94308155; PMID:8034652
A;Accession: 138023...
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A;Description: regulation of extracellular matrix remodeling by inhibition of matrix met A;Note: transcription induced by cytokines, tumor promoters, and anti-inflammatory agent A;Note: TIMP-1 and TIMP-3 have distinct but overlapping tissue-specific expression patte
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A; Residues: 1-211 < RE2>
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A; Residues: 'X', 25, 'X', 27-35, 'X', 37 <AP2>
                                                                                                                                                A;Cross-references: GDB:138175;
A;Map position: 22q12.1-22q13.2
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"Title: Cloning of cDNAs encoding human TIMP-3, a novel
"Reference number: S59515; MUID:94215920; PMID:8163205
ession: S59515
tus: preliminary
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                                                                                                                                                                                                                             ;Gene: GDB:TIMP3
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C;Superfamily: metalloproteinase inhibitor
C;Keywords: extracellular matrix; metalloproteinase inhi
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-211/Product: metalloproteinase inhibitor 3 #status
F;24-91,26-118,36-143,145-192,150-155,163-184/Disulfide
A;Cross-references: EMBL:X54533; NID:g37180; PIDN:CAA38400.1; R;Osthues, A.; Knaeuper, V.; Oberhoff, R.; Reinke, H.; Tschesc FEBS Lett. 296, 16-20, 1992
                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: protein
A;Residues: 27-77, Kr,79-81,'I',83-100,'E',102-117;119-121,'R',123-149,'Q',151-174,'T',1:
A;Experimental source: serum-free culture medium of A2058 cells
R;Goldberg, G.I.; Marmer, B.L.; Grant, G.A.; Eisen, A.Z.; Wilhelm, S.; He, C.
Proc. Natl Acad. Sci. U.S.A. 86, 8207-8211, 1989
A;Title: Human 72-kilodalton type IV collagenase forms a complex with a tissue inhibitor
A;Reference number: A34415, MUID:90046765; PMID:2554304
A;Accession: A34415
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A;Title: Tissue inhibitor of metalloproteinase (TIMP-2). A ne A;Reference number: A34464; MUID:90008902; PMID:2793861
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A;Cross-references: GB:J05593; NID:g339706; PIDN:AAA61186.1;
A;Cross-references: GB:J05593; NID:g339706; PIDN:AAA61186.1;
A;Experimental source: A2058 melanoma cell cDNA library
R;Boone, T.C.; Johnson, M.J.; De Clerck, Y.A.; Langley, K.E.
Proc. Natl. Acad. Sci. U.S.A. 87, 2800-2804, 1990
A;Title: cDNA cloning and expression of a metalloproteinase i A;Reference number: A35996; MUID:90207285; PMID:2157214
A;Accession: B35996
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                                                                                                                                                                                                                                                                                  A;Molecule type: protein
A;Residues: 30-51;124-141;159-173 <GOL>
R;Malik, K.; Sejima, H.; Aoki, T.; Iwata,
                                                                                             A; Molecule type: mRNA
A; Residues: 30-95,'V',97-214 <MAL>
                                                                                                                                                                                                                         submitted to the EMBL Data Library, Av A;Description: Nucleotide sequence of
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of a TIMP-II
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cell

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A; Molecule type: protein
A; Residues: 'X',28,'X',30-38,'X',40-41 <0ST>
A; Resperimental source: rheumatoid synovial fluid
R; Ward, R: V.; Hembry, R: M.; Reynolds, J.J.; Murphy, G.
Biochem. J. 278, 179-187, 1991
A; Title: The purification of tissue inhibitor of metalloproteinases-2 from its 72 kDa px
A; Reference number: S17165; MUID:91354200; PMID:1909113
A,Title: Isolation and characterization of tissue inhibitors of metalloproteinases (TIMF A,Reference number: S20318; MUID:92111776; PMID:1730286
A,Accession: S20319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A)Description: regulation of extracellular matrix remodeling by inhibition of matrix med possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiating C; Superfamily: metalloproteinase inhibitor
C; Keywords: erythropoiesis; extracellular matrix; metalloproteinase inhibitor; mitogen F; 27-220/Product: metalloproteinase inhibitor 2 #status experimental <MAT>
F; 27-220/Product: metalloproteinase inhibitor 2 #status experimental <MAT>
F; 27-98, 29-127, 39-152, 154-201, 159-164, 172-193/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                             A/Status: preliminary
A/Status: preliminary
A/Status: preliminary
A/Molecule type: protein
A/Residues: 27, / x', 29, / x', 31-38 < WAR>
R/Obba, Y.; Goto, Y.; Kimura, Y.; Suzuki, F.; Hisa, T.; Takahashi, K.; Takigawa, M.
Biochim. Biophys. Acta 1245, 1-8, 1995
A/Title: Purification of an angiogenesis inhibitor from culture medium conditioned by A/Reference number: SS8794; MUID:95383380; PMID:7544625
A/Accession: S58794
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A;Molecule type: protein
A;Residues: 27-37 <OHB>
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Title:
Perfect score:
Sequence: Minimum OM protein -Total number of hits satisfying chosen parameters: Run Maximum Scoring table: on: hed: DB seq length: 0
seq length: 2000000000 protein search, using sw model US-09-452-817-1 1009 1 CTCVPPHPQTAFCNSDLVIR.....ACLPREPGLCTWQSLRSQIA 184 December 17, 2002, 15:04:26 ; Search time 10.1517 Seconds (without alignments) 751.758 Million cell updates/sec 112892 segs, 41476328 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Copyright GenCore version (c) 1993 - 2002 5.1.3 Compugen Ltd. 112892

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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SEQUENCE FROM N.A.
TISSUB=Ovary;
MEDLINE=91025550; PubMed=2171551;
Rapp G., Freudenstein J., Klaudiny J., Mucha J., Wempe F., Zimmer M.,
Scheit K.H.;

"Characterization of three abundant mRNAs from human ovarian granulosa cells."; DNA Cell Biol. 9:479-485(1990).

ALIGNMENTS

21-UUL-1966 (Rel. 01) Last sequence update) 15-UUL-2002 (Rel. 41) Last annocation update) Mctalloproteinase inhibitor 1 precursor (TINP-1) (Erythroid potentiating activity) (EPA) (Tissue inhibitor) of metalloproteinases) Potentiating activity) (EPA) (Tissue inhibitor) of metalloproteinases) Fibroblast collagenase inhibitor) (Collagenase inhibitor) Homo sapiens (Human) Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. NCBI TaxID-9606; 10	2
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MEDLINE=97433330, PubMed=9288970;
Gomis-Ruth F.X., Maskos K., Betz M., Bergner A., Huber R., Suzuki K.,
Yoshida N., Nagase H., Brew K., Bourenkov G.P., Bartunik H., Bode W.;
"Mechanism of inhibition of the human matrix metalloproteinase
stromelysin-1 by TIMP-1.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 24-38.

TISSUE-Synovial fluid:
MEDLINE-92111776; PubMed=1730286;
MEDLINE-92111776; PubMed=1730286;
MEDLINE-921110776; PubMed=1730286;
MISOLATION and Characterization of tissue inhibitors of metalloproteinases (TIMP-1 and TIMP-2) from human rheumatoid synovial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Van Ranst M., Norga K., Masure S., Proost P., Vandekerckhove F., Auwerx J., Van Damme J., Opdenakker G.; The cytokine-protease connection: identification of a 96-kD THP-1 gelatinase and regulation by interleukin-1 and cytokine inducers."; Cytokine 3:231-239(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the
                                               Opbroek A., Kenney M.C., Brown D.; "Characterization of a human corneal metalloproteinase inhibitor
                                                                                                                                                                                                                                                                                                                                                            MEDLINE=90303199; PubMed=2163605;
Williamson R.A., Martson F.A.O., Angal S., Koklitis P., Panico I Morris H.R., Carne A.F., Smith B.J., Harris T.J.R., Freedman R. "Disulphide bond assignment in human tissue inhibitor of metalloproteinases (TIMP).";
Biochem. J. 268:267-274(1990).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=93041700; PubMed=1420137; O'Shea M., Willenbrock F., Williamson R.A., Cockett M.I., O'Shea M., Willenbrock F., Williamson R.A., Cockett M.I., Freedman R.B., Reynolds J.J., Docherty A.J.P., Murphy G.; "Site-directed mutations that alter the inhibitory activity tissue inhibitor of metalloproteinases-1: importance of the N-terminal region between cysteine 3 and cysteine 13."; Biochemistry 31:10146-10152(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS) OF COMPLEX WITH MMP-3.
                                                                                                                                                                                                                                                                                                   Hardcastle A.J.;
Submitted (SEP-1995) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                               Strausberg R.;
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                               Matsuda T., Kohno K., Kuwano M.;
Submitted (JUL-1992) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                             DISULFIDE BONDS, AND PARTIAL SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=91355647; PubMed=1653055;
[6]
SEQUENCE FROM N.A.
MEDLINE=94123576; PubMed=7507419;
                                                                                             Curr. Eye Res. 12:877-883(1993)
                                                                                                                                                                                                              SEQUENCE OF 42-207 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lett. 296:16-20(1992).
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TISSUE=Cervix;
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            PROGENITORS. KNOWN TO ACT ON MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-10, MMP-11, MMP-12, MMP-13 AND MMP-16. DOES NOT ACT
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MURINE ERYTHROID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Glycoprotein, Metalloprotease inhibitor; Erythrocyte maturation; 3D-structure; Signal.
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                                                  SUBCELLULAR LOCATION: Secreted.
PTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE
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100.0%; Pred. No. 2e-
ive 0; Mismatches
                                                                                          SIMILARITY: BELONGS TO THE TIMP FAMILY.
DIFFERENTIATION OF
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D11139; BAA01913.1; -
L47361; AAA75558.1; -
A10416; CAA00898.1; -
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X02598; CAA26443.1; -.
M59906; AAA63234.1; -.
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Genew; HGNC:11820; TIMP1.
MIM; 305370; -.
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Matches 184; Conservative
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SMART; SM00206; TIMP;
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PDB; 1D2B; 22-DEC-99.
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PIR; S20318; S20318.
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PIR; A23534; A23534.
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01-FEB-1996 (Rel. 3
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                              the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                PROSITE; PS001
Glycoprotein;
                                                                                                                                                                                                                                                                                                             InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; 1.
                                                                                                                                                                                                                                                                                                                                                            EMBL; L37295; AAA99943.1; -. HSSP; P01033; 1D2B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Forough R., Nikkari S.T., Hasenstab D., "Cloning and characterization of a cDNA inhibitor of matrix metalloproteinase-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAPCY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gene 163:267-271(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Metalloproteinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -!- SIMILARITY: BELONGS TO THE TIMP FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=96011646; PubMed=7590279;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |CBI_TaxID=9556;
[1]
                                                                                                            Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AND IRREVERSIBLY INACTIVATES THEM.
SUBCELLULAR LOCATION: Secreted.
FIM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PR
              VYTPAMESVCGYFHRSHURSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                             CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                            CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                182;
                                                                                                            Similarity
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168
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                                                                                                Conservative
                                                                                                                                                                                                                                                                                                Metalloprotease
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                                                                                                          99.3%;
98.9%;
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                                                                                                                                                         BY SIMILARITY.
METALLOPROTEINASE INF
METALLOPROTEINASE INF
BY SIMILARITY.
N-LINKED (GLCNAC. . . .
                                                                                              Score 1002; DI
Pred. No. 1.1e
2; Mismatches
                                                                                                2;
                                                                                                                                                                                                                                                                                                inhibitor; Erythrocyte maturation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   precursor
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or (TIMP-1).
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encoding
(TIMP-1).
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g the baboon tissue
).";
                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            and the
                                                                                                                      Length 207;
                                                                                                                                                           .) (POTENTIAL)
                                                                                               Indels
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VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY 120

CTCVLPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF

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                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entities requires a license agreement (See http://www.isb-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q95KL9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MACMU
                                                                           SEQUENCE
                                                                                                                                                                                                              PROSITE; PS00288; TIMP; FALSE_NEG.
Glycoprotein; Metalloprotease_inhibitor;
                                                                                                                                                                                                                                   InterPro; IPR001820; TIN
Pfam; PF00965; TIMP; 1.
                                                                                                                                                                                                                                                          EMBL; AF366397; AAK53704.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cercopithecinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Macaca mulatta (Rhesus macaque).
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                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS TO THE TIMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                    PTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON DISULFIDE BONDS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRIA 207
CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
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                                           Similarity
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24
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26
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53
101
207 AA;
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                                Conservative
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                                        98.0%;
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N'LINKED (GLCNAC. . . ) (

N'LINKED (GLCNAC. . . ) (
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                               Score 989; DB 1;
Pred. No. 2.4e-95;
3; Mismatches 1
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                                                                                                                                                                                                              Erythrocyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                               INHIBITOR
                                                   Length 207
                                                                             CRC64;
                                                                                                                                                                                                                                                                                                                                                                                              THE PRESENCE
                                Indels
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                                                                                                  (POTENTIAL)
                                                                                       (POTENTIAL)
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P50122;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
AND IRREVERSIBLY INACTIVATES THEM.
SUBGELLULAR LOCATION: SECRETEd.
PIW: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         an
                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=90365711; PubMed=2393392; MEDLINE=90365711; PubMed=2393392; Preudenstein J., Wagner S., Luck R.M., Einspanier R., Scheit K.H.; Preudenstein J., Magner S., Inhibitor of metalloproteinase: sequence and "mRNA of bovine Lissue inhibitor in Figsue.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=94257757; PubMed=8199264;
Satch T., Kobayashi K., Yamashita S., Kikuchi M., Sendai Y., Hoshi F
"Tissue inhibitor of metalloproteinases (TIMP-1) produced by
grannlosa and oviduct cells enhances in vitro development of bovine
                                                                                                                                                                                                                                                                                                         Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 metalloproteinase inhibitors secreted by bovine aortic endothelial
TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                           TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                                              TIMI_BOVIN STANDARD; PRT; 207 AA.
P20414; OSTVB0;
01-FBB-1991 (Rel. 17, Last sequence update)
01-FBB-1991 (Rel. 17, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1) (Embryogenin-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY SEQUENCE OF 24-69.
MEDLINE=90008914; PubMed=2551903;
de Clerck Y.A., Yean T.D., Ratzkin B.J., Lu H.S., Langley K.E.;
"purification and characterization of two related but distinct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Balcerzak D., Querengesser L., Dixon W.T., Baracos V.E.; "Involvement of fibroblasts and muscle cells in the expression extracellular proteolytic cascade in bovine skeletal muscle."; Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Biophys. Res. Commun. 171:250-256(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DISULFIDE BONDS. SIMILARITY: BELONGS TO THE TIMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              J. Biol. Chem. 264:17445-17453(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biol. Reprod. 50:835-844(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE OF 25-191 FROM N.A. TISSUE=Skeletal muscle;
                                                                                                                                                                                                                                                                                                                                                  Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9913;
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TRMA 207
                                                                                                   SQIA 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochem.
                                                                                                                                                                                                                                                                                                                                                    Bovidae;
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TIM1_BOVIN
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EMBL; M60073; AAA30784.1; -.

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(SUCH AS COLLAGENASES)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ovis aries (Sheep).
Sukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCVPPHPQTAFCNSDVVIRAKFVGTAEVNETALYQRYEIKMTKMFKGFSALRDAPDIRF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              144 AAGCEECTVFPCSSIPCKLQSDTHCLWTDQLLTGSDKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                             PROSITE; PS00288; TIMP; 1.
Glycoprotein; Metalloprotease inhibitor; Erythrocyte maturation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Endocrinology 134:344-352(1994).
-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGE AND IRREVERSIBLY INACTIVATES THEM.
-!- SUBCELLULAR LOCATION: Secreted.
-!- PTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS.
                                                                                                                                                                                                                                                                                                                                                                                    ..) (POTENTIAL)
..) (POTENTIAL)
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                                                                                                                                                                                                                                           INHIBITOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           E672BEE2E865F3F7 CRC64;
                                                                                                                                                                                                                                     METALLOPROTEINASE IN
BY SIMILARITY.
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N-LINKED (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; DB 1;
2.1e-85;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            207 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 2.1e; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                88:5%; Score 893;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10;
                  EMBL; AF144763; AAD30303.1; PIR; A35685; A35685. PIR; B34468; B34448. HSSP; PO1033; 1UEA. INTERPC; IFRO1820; TIMP. PEAM; SM02065; TIMP; 1. SMART; SM00206; TIMP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                           23031 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     87.0%;
AAB30892.1;
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Matches 160;
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P35624; Q9TTB3; Q9TTB9;
01-JUN-1994 (Rel. 29, Cre
16-OCT-2001 (Rel. 40, Las
16-OCT-2001 (Rel. 40, Las
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
SEQUENCE
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Signal
CHAIN
DISULFID
                                                                                                               MEDLINE=92201478; PubMed=1312961;
Tanaka T., Andoh N., Takeya T., Sato E.;
"Differential screening of ovarian cDNA libraries detected the
expression of the porcine collagenase inhibitor gene in function
corpora lutea.";
SEQUENCE OF 34-195 FROM N.A.
Wang J.Y., Baer A.E., Kraus V.B., Setton L.A.;
"Gene expression level of mmp3 and Timp1 in intervertebral disc.";
                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                       Sus scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                                                                                             01-UUN-1994 (Rel. 29, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1)
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                                                                                                                                                                                                                                     TISSUE=Ovary;
                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9823;
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Pfam; PF00965; TIMP; 1.
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PROSITE; PS00288; TIMP; 1.
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P01033; 1UEA.
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56; Conservative
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METALLOPROTEINASE INHIBITOR 1.

BY SIMILARITY.

N-LINKED (GLCNAC. . .) (POTENTI:

N-LINK
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Pred. No. 1.2e-83;
0; Mismatches 14;
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Best Local
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EMBL; AF201726; AAF24348.1; -.
EMBL; AF156029; AAF17354.1; -.
HSSP; P01033; 1UEA.
InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
SMART; SM00206; TIMP; 1.
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SIGNAL
CHAIN
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                                                                                                                                                                                                                                                                             SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wang J.F., Boykiw R.H., Reno C.R., Hart D.A., Olson M.E.;
"Cloning and sequencing of porcine TIMPs.";
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
-i- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
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SUBCELLULAR LOCATION: Secreted.
PTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT
PRVA
                                                                                                                       VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTY
                                                                                                                                                                                    CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                           SQIA 184
                                                      AAGCEECTVFPCTSIPCKLQSDTHCLWTDQLLTGSDKGFQSRHLACMPREPGMCTWQSLR
                                                                   TVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTWQSLR
                                                                                                                                                                 CTCVPPHPQTAFCSSDLVIRAKFVGAPEFNQTASYKRYEIKMTKMFKGFNALGDAPDIRF
                                                                                                                                                                                                                        153;
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83.2%;
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BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTI!
N-LINKED (GLCNAC. . .) (POTENTI!
                                                                                                                                                                                                                                                                                       A -> P (IN REF. 2).
S -> N (IN REF. 3).
V -> F (IN REF. 2).
K -> Q (IN REF. 1).
T -> A (IN REF. 3).
EI -> KT (IN REF. 3).
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Pred. No. 1.3e-82
4; Mismatches 1
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RESULT 7

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                                                                                                                                                                    Richardson D.W., Dodge G.R.;
"Molecular characteristics of equine stromelysin and the tissue inhibitor of metalloptoceinase 1.";
Am. J. Vet. Res. 59:1557-152(1998).
-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES) AND IRREVERSIBLY INACTIVATES THEM (BY SIMILARITY).
-!- SUBCELLULIAR LOCATION: Secreted.
-!- PTW: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE TIMP FAMILY.
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METALLOPROTEINASE INHIBITOR 1.
BY SIMILARITY.
CHOCKER (GLCNAC. ..) (POTENTIAL).
CHOCKER (GLCNAC. ..) (POTENTIAL).
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                                                                                        Eŭkaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
NCBI_TaxID=9796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Glycoprotein; Metalloprotease inhibitor; Erythrocyte maturation; Signal.

1 23 BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-LINKED (GLCNAC. . .) (PC FD710DA98D168070 CRC64;
                               15-DEC-1998 (Rel. 37, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 826; DB 1;
Pred. No. 1.9e-78;
207 AA
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PRT;
                                                                                                                                                            MEDLINE=99074117; PubMed=9858406;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23046 MW;
                      Created)
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Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; 1.
STANDARD;
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                     (Rel. 37, (Rel. 37,
                                                                              Equus caballus (Horse)
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                                                                                                                                      SEQUENCE FROM N.A.
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                      15-DEC-1998
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Matches 151;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Quible D.J.,
"Hyperoxic exposure alters gene expression in the lung. Induction of
"Hyperoxic exposure alters gene expression in the lung. Induction of
the tissue inhibitor of metalloproteinases mRNA and other mRNAs.";
J. Biol. Chem. 264:7092-7095(1989).
-i- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
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N' LINKED (GLCNAC. . .) (POTENTIAL).
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HISSP; PO1033; 1D28.
InterPro; IPR01820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
Glycoprotein; Metalloprotease inhibitor; Brythrocyte maturation;
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SUBCELLULAR LOCATION: Secreted.
PTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS.
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MEDLINE=89214135; PubMed=2708356;
HOTOWitz S., Dafni N., Shapiro D.L., Holm B.A., Notter R.H.,
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Mammalia, Butheria, Lagomorpha, Leporidae, Oryctolagus.
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                                                                                                                                     01-FEB-1991 (Rel. 17, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1)
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                                                                                   01-FEB-1991 (Rel. 17, Created)
01-FEB-1991 (Rel. 17, Last seq
16-OCT-2001 (Rel. 40, Last anno
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P81546; Q9TQS5;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=99132652; PubMed=9931441;
Zeiss C.J., Acland G.M., Aguirre G.D., Ray K.;
"TIMP-1 expression is increased in X-linked progressive
arrophy despite its exclusion as a candidate gene.";
Gene 225:67-75(1998).
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Canis familiaris (Dog).
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Metazoa; Chordata; Fissipedia; Canidae;
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Noritake H., Miyamori
Submitted (AUG-1998) t
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FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH
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AAD10632.1; -.
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alloprotease_inhibitor;

    40, Last sequence update)
    41, Last annotation update)
    inhibitor 1 precursor (TIMP-1).

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METALLOPROTEINASE 1

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                                                                                                                                                                                                                                                                                                                                              TISSUE-Fibroblast;

TISSUE-Fibroblast;

REDLINE-87066763; PubMed=3024122;

REDWards D.R., Waterhouse P., Holman M.L., Denhardt D.T.;

Edwards D.R., Waterhouse P., Holman M.L., Denhardt D.T.;

Redwards D.R., Waterhouse P., Holman M.L., Denhardt D.T.;

Romands of the state of the
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01-0CT-1989 (Rel. 12, Created)
01-MAY-1991 (Rel. 18, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
16-0CT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1) (Erythroid potentiating activity) (EPA) (Tissue inhibitor of metalloproteinases)
(Collagenase inhibitor 16C8 fibroblast) (TPA-induced protein)
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SEQUENCE
                                                                                      Johnson M.D., Housey G.M., Kirschmeier P.T., Weinstein I. "Molecular cloning of gene sequences regulated by tumor pmitogens through protein kinase C."; Mol. Cell. Biol. 7:2821-2829(1987).

-i- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS -1- FUNCTION: COMPLEXES WITH METALLOPROTEINASES)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=87218524; PubMed=3034603;
Gewert D.R., Coulombe B., Casteelino M., Skup D., V
"Characterization and expression of a murine gene
EPA/TIMP: a virus-induced gene in the mouse.";
                                                                                                                                                                                                               MEDLINE=88038821; PubMed=3670294;
                                                                                                                                                                                                                                                                                                           constitutive transcripts.";
Nucleic Acids Res. 14:8863-8878(1986)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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Mammalia; Eutheria; Rodentia;
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AND IRREVERSIBLY INACTIVATES THEM. ALSO MEDIATES ERYTHROPOIESIS VITRO; BUT, UNLIKE IL-3, IT IS SPECIES-SPECIFIC, STINULATING THE GROWTH AND DIFFERENTIATION OF ONLY HUMAN AND MURINE ERYTHROID PROGENITORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J. 6:651-657(1987).
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H -> O (IN REF, 1.
MISSING (IN REF, 1.
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'11; DB 1;
'7e-77
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TISSUE SPECIFICITY: FOUND IN PETAL AND ADULT TISSUES. HICHEST
LEVELS ARE FOUND IN BONE. ALSO FOUND IN LUNG, OVARY AND UTERUS.
INDUCTION: REGULATED BY TUMOR PROMOTERS AND MITOGENS THROUGH
PROTEIN KINASE C. ALSO INDUCED BY VIRUSES.
PTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF
DISULFIDE BONDS.
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N-LINKED (GLCNAC. . .) (POTENTIAL).
M -> MW (IN REF. 1).
M -> KF (IN REF. 1).
S -> N (IN REF. 1).
A -> V (IN REF. 1).
T -> KN (IN REF. 1).
                                                                                                                                                                                                                                                                                                                                                                                                 (POTENTIAL).
                                                                                                                                                                                                                                                                                                  Glycoprotein, Metalloprotease inhibitor; Erythrocyte maturation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          75.5%; Score 761.5; DB 1; Length 205;
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A -> V (IN REF. 1).
I -> KN (IN REF. 1).
P -> L (IN REF. 1).
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                                                              -! - SIMILARITY: BELONGS TO THE TIMP FAMILY.
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EMBL, M283110, AAB42179.1, JOINED.
EMBL, W28311, AAB42179.1, JOINED.
EMBL, X04664, CAA28387.1,
EMBL, M17243, AAA40471.1,
                                                                                                                                                   EMBL; M28312; AAB42179.1; -.
EMBL; M28308; AAB42179.1; JOINED.
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InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
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PIR; A26106;
PIR; A26917;
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RESULT 11 TIM1_RAT

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-Wistar; TISSUE-Skin dorsal;
MEDLINE-95011636; Pubmed-7926820;
Okada A., Garnier J.M., Vicaire S., Basset P.;
—(Loning of the cDNA encoding rat tissue inhibitor of metalloproteinase 1 (TIMP-1), amino acid comparison with other TIMPs, and gene expression in rat tissues.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
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MEDLINE=92117648; PubMed=1309971;
Roswit W.T., McCourt D.W., Partridge N.C., Jeffrey J.J.;
"Purification and sequence analysis of two rat tissue inhibitors of metalloproteinases.";
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TISSUE-Liver;
MEDLINE-9317624; PubMed=8707259;
MILINE-9317624; PubMed=8707259;
Winwood P.J., Clark N., Murphy G.;
"Tissue inhibitor of metalloproteinase-1 messenger RNA expression inenhanced relative to interstitial collagenase messenger RNA in experimental liver injury and fibrosis.";
Hepatology 24:176-184(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Mammary gland;
Gibbons K.L., O'Grady R.L., Piper A.A.;
Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
TIM1 RAT STANDARD; PRT; 217 AA. P30120; PD30120; PD30130; PD30130; PD30120; PD30130; PD30120; PD30130; PD30130; PD30130; PD301300; PD30130; PD301300; PD30130; PD30130; PD30130; PD30130; PD30130; PD30130; PD3013
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STRAIN-Sprague-Dawley, TISSUE-Sertoli cells;
MEDLINE-95296691; PubMed-7777858;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIMILARITY: BELONGS TO THE TIMP FAMILY
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                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus norvegicus (Rat).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
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Matches
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 SEQUENCE FROM N.A.
TISSUB=Carrilage;
PubMed=11342115;
Kim J.T., Kim M.-S., Bae M.-K., S.
Lee S.-J., Kim K.-W.;
Teoloning and characterization of metalloproteinase-3 (TIMP-3) from
                                                                                                                                                                                                                                                             TIM3 SCYTO STAN

Q9W6B4;

15-JUN-2002 (Rel. 4

15-JUN-2002 (Rel. 4

15-JUN-2002 (Rel. 4

Metalloproteinase i
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CONFLICT
                                                                                                                                                          Eukaryota; Metazoa; Chordata; Elasmobranchii; Galeomorphii; Scyliorhinidae; Scyliorhinus.
                                                                                                                                                                                                               Scyliorhinus torazame
                                                                                                                                                                                                                                                  metalloproteinases-3).
                                                                                                                                                                                                                                   TIMP3
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                                                                                                                                             TaxID=75743;
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128; Conser
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IPR001820; TIMP.
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41. Last sequence update)
41. Last sequence update)
41. Last annotation update)
inhibitor 3 precursor (TIMP-3)
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71.5%;
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QKAFV -> KKGLT (IN REF. 3)
V -> L (IN REF. 4).
A -> V (IN REF. 3).
S -> T (IN REF. 3).
DHF -> RHL (IN REF. 3).
D -> G (IN REF. 3).
Y -> S (IN REF. 3).
VS -> SR (IN REF. 3).
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BY SIMILARITY.
CONTROL (GLCNAC.
N-LINKED (GLCNAC.
n of tissue inhibitor of from shark, Scyliorhinus torazame.";
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Pred. No. 1e-69;
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Craniata; Vertebrata; Chondri
Galeoidea; Carcharhiniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           inhibitor; Erythrocyte maturation;
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                                                   Song H.S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                   Ahn M.-Y.,
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SEQUENCE FROM N.A.
MEDLINE=9812528; PubMed=9462696;
Aimes R.T., Li L.H., Weaver B., H
Quigley J.P.;
"Cloning, expression, and charact
                                                                                                                               Gallus
                                                                                                                                          metalloproteinases-2) TIMP2.
                                                                                                                                                               15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
16-JCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 2 precursor (TIMP-2)
                                                                                                                                                                                                                   042146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
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HSSP; P16035; 2TMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (some send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboratic between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it use by non-profit institutions as long as its content is in no was
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                                                                                                    Archosauria;
                                                                                                                 Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00288;
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SMART; SM00206; TIMP;
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                                                                          NCBI_TaxID=9031;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENA)
AND IRREVERSIBLY INACTORES THEM. MAY FORM PART OF A TISSUE-
SPECIFIC ACUTE RESPONSE TO REMODELING STIMULI (By similarity).
SUBCELLULAR LOCATION: Secreted. Extracellular matrix (By
                                                                                                                                                                                                                                CHICK
                                                                                                                                                                                                                                                                                                                                           YIYTEAABSLCGV--RLQVNKFQYLITGRVFDGEVYTGVCNFIVPWDRLTLSQRKGLNHR
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                                                                                                                                                                                                                                                                                                                                                                                                                   CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTL-YQRYEIKMTKMYKGFQALGDAADIR
                                                                                                                                                                                                                                                                                            YQYGC-NCKIKPCYYLPCFVTAKNECFWTDMLSDQGYMGHQAKHYVCIRQKEGYCSW
                                                                                                                                                                                                                                                                                                                    YTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPGLCTW
                                                                                                                                                                                                                                                                                                                                                                                              CTCMPNHPQEAFCNSDIVIRAKVVGKKLLKDGPFGTMRYTIKQMKMYRGFSKM----QQVQ
                                                                                                                             gallus (Chicken)
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                                                                                                     Chordata; Craniata; Vertebrata; Euteleostomi;
Weognathae; Galliformes; Phasianidae; Phasiani
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     characterization
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METALLOPROTEINASE I

BY SIMILARITY.

BY SIMILARITY.
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2; Mismatches
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Pred. No. 4.
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                           Hawkes S.,
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nes 67;
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     chicken tissue
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A TISSUE-
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                                                                                                       Phasianinae,
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MEDLINE=92290292; PubMed=1601312;
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                                                                                                                                                                                           This SWISS-FROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                  chicken embryo fibroblasts.",
J. Cell. Physiol. 174:342-352 (1998).
-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
AND IRREVERSIBLY INACTIVATES THEM (BY SIMILARITY).
-!- SUBSCELLULAR LOCATION: Secreted.
-!- PIM: THE ACTIVITY OF TIMP-2 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWNSLSLAQ 112
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of metalloproteinase-2 (TIMP-2) in normal and transformed
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01-APR-1993 (Rel. 25, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
metalloproteinase inhibitor 2 precursor (TIMP-2) (Tissue inhibitor TIMP2 OR TIMP2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27 CSCSPIHPQQAFCNADVVIRAKRVSAKEVDSGNDIYGNPIKRIQYBVKQIKMFK----G
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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BY SIMILARITY.
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Pred. No. 1.5e-32
                                                                                                                                                            SIMILARITY: BELONGS TO THE TIMP FAMILY.
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InterPro; IPR001820; TIMP.
Fram: PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; 1.
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SIGNAL 1 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MATTIX 11:10-16(1991).
-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
AND IRREVERSIBLY INACTIVATES THEM.
-!- SUBCELLULAR LOCATION: Secreted.
-!- PTM: THE ACTIVITY OF TIMP-2 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS.
-!- SIMILARITY: BELONGS TO THE TIMP PAMILY.
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Shimizu S., Malik K., Sejima H., Kishi J.I., Hayakawa T., Koiwai O., "Cloning and sequencing of the cDNA encoding a mouse tissue inhibitor of metalloproteinase-2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWNSLSLAQ 112
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                                                                                                                                                                                MEDLINE=92347695; PubMed=1639268;
Leco K.J., Hayden L.J., Sharma R.R., Rocheleau H., Greenberg A.H.
                                                                                                                                                                                                                                                                              expression in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kishi J.I., Ogawa K., Yamamoto S., Hayakawa T.;
"Purification and characterization of a new tissue inhibitor of
metalloproteinases (TIMP-2) from mouse colon 26 tumor cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1; Length 220;
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BY SIMILARITY.
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V -> L (IN REF. 2).
K -> E (IN REF. 2).
1D0A16CEDA023F0D CRC64;
                                                                                                                                                                                                                                                   DOTABLE THE STATE OF TIMP-1 and TIMP-2 mRNA E normal and Ha-ras-transformed murine fibroblasts."; [3]
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Metalloprotease inhibitor; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=91226375; PubMed=1851244;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24328 MW;
                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY SEQUENCE OF 27-62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; X62622; CAA44491.1; -. EMBL; M82858; AAA40445.1; -. EMBL; M93954; AAA40446.1; -. PIR; S15987; S15987. PIR; JH0683; JH0683.
                                                                                                                                                                                                                                                Edwards D.R.; "Differential regulation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41.8%;
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MGD; MGI:98753; Timp2.
InterPro; IPR001820; TIMP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; 1
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                                                                                                 Gene 114:291-292(1992).
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                                                                                                                                                        SEQUENCE FROM N.A.
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RESULT 15
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                                                                                                                                                                 metalloproteinases.";
Arch. Biochem. Biophys. 292:402-410(1992).
-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES
                                                                                                                                                                                                            SEQUENCE OF 27-48.
SEQUENCE OF 27-48.
MEDLINE=92117648; PubMed=1309971;
MCCourt D.W., Partridge N.C.,
Roswit W.T., McCourt D.W., Partridge N.C.,
                                                                                                                                                                                                                                                                                         MEDLINE=96384329; PubMed=8792217; Grima J., Calcagno K., Cheng C.Y.; "Purification, CDNA cloning, and developmental changes in state mRNA level of rat testicular tissue inhibitor of metalloproteases-2 (TIMP-2)."; J. Androl. 17:263-275(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
MEDLINE=94326839; PubMed=8050496;
MEDLINE=94326839; PubMed=8050496;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-0CT-1996 (Rel. 34, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 2 precursor (TIMP-2) (Tissue inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIM2_RAT P30121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-Sprague-Dawley; TISSUE-Bone;
STRAIN-Sprague-Dawley; TISSUE-Bone;
MEDLINE-94263207; PubMed-8203893;
Cook T.F., Burke J.S., Bergman K.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus (Rat).
Sukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                Salvatore D., Pusco A.; "Cloning of the rat tissue inhibitor of metalloproteinases type 2 (TIMP-2) gene: analysis of its expression in normal and transformed thyroid cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                metalloproteinases-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                 Exp. Cell Res. 213:398-403(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gibbons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Cloning and regulation of rat tissue inhibitor metalloproteinases-2 in osteoblastic cells."; Arch. Biochem. Biophys. 311:313-320(1994).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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16-OCT-2001 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-APR-1993
                                                                                          -!- SIMILARITY: BELONGS TO THE TIMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ibbons K.L., O'Grady R.L., ubmitted (JUN-1995) to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SSUE=Mammary gland;
                                                                                                                      AND IRREVERSIBLY INACTIVATES THEM.
SUBCELLULAR LOCATION: Secreted.
PTM: THE ACTIVITY OF TIMP-2 IS DEPENDENT ON
                                                                                                          DISULFIDE BONDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Piper A.A.;
EMBL/GenBank/DDBJ databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Carlomagno F.,
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EMBL; L31884; AAA84581.1; -
EMBL; S27594; AAC60687.1; -
EMBL; S82718; AAB4907.1; -
EMBL; S82325; S20325.
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27; Mismatches
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les 65;
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Copyright (c) 1993 - 2002 Compugen Ltd.
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Q9qV14 mus sp. co1	Q9QV14	11	30	10.5	TOP	μ
Q962h0 cucumaria i	0H2960		280	10.6	106.5	
	2011	١,))	1
09cv13 mus sp. col	090V13	11	25	12.3	124	14
Q9quw9 rattus sp.	Q9QUW9	•	25	12.3	124	13
Q8uuz2 xenopus lae	Q8UUZ2		97	12.8	129.5	12
Q61720 mus musculu	Q61720	11	38	14.8	149.5	11
Q9gpj2 crassostrea	Q9GPJ2		221	18.0	181.5	10
Q95kl8 macaca mula	Q95KL8	ი	97	18.7	188.5	9
Q95kl7 macaca mula	Q95KL7	σ	126	23.0	232.5	8
. Q9ttb8 sus scrofa	Q9TTB8	σ	138	24.4	246.5	7
Q9ttb6 sus scrofa	Q9TTB6	σ	170	27.9	282	6
Q9ttb7 sus scrofa	Q9TTB7	σ	152	29.5	297.5	v
Q925q6 mesocricetu	Q925Q6	11	194	36.5	368.5	4
Q91zp7 rattus norv	Q91ZP7	11	145	51.0	515	w
	Q9MZ12	σ	137	62.7	633	2
Q96qm2 homo sapien	Q96QM2	4	169	79.3	800	1
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Galloway S.M., McNatty K.P., Cambridge L.M., Laitinen M.P.E.,
Juengel J.L., Jokiznata S., McLaren R.J., Luiro K., Dodds K.D.,
Montgomery G.W., Beattie A.E., Davis G.H., Ritvos O.;
"Mutations in an ocyte-derived growth factor (BMP15) cause increased
ovulation rate and infertility in a dosage-sensitive manner.";
Mar. Genet. 25:279-283(2000).
EMBL, AP268477; AAF81746.1; -.
HSSP; P01033; 1D2B.
InterPro; IPR01820; TIMP.
Pfam; PF00965; TIMP; 1.
SWART; SM00205; TIMP; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        67 ESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWNSLSLAQRRGFTKTYTVGCEE 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 ESVCGYFHRSONRSEBFLIAGOLSNGHLHITTCSFVAPWNSMSSAORRGFTKTYAAGCEE 120
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
                                                                                                                                                                                                                                                                                                                                                                                             Ovis aries (Sheep).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
Bovidae, Caprinae, Ovis.
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84.7%; Pred. No. 1.3e-61;
live 8; Mismatches 13; Indels
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Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.
EMBL, AF41119; AALO5862.1;
InterPro; IPR001820; TIMP.
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01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last amnotation update)
Tissue inhibitor of metalloproteinase 1 (Fragment).
Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                01-OCT-2000 (TrEMBLrel. 15, Last sequence update) 01-JUN-2002 (TrEMBLrel. 21, Last annotation update) Tissue inhibitor of metalloproteinase 1 (Fragment).
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01-0CT-2000 (TrEMBLrel. 15, Last seq
01-JUN-2002 (TrEMBLrel ), ...
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Matches 116; Conservative
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KO K.H., Shin C.Y., Lee W.J., Yoo B.K., Ryu J.R., Park K.H.;

KO K.H., Shin C.Y. Lee W.J., Yoo B.K., Ryu J.R., Park K.H.;

"Expression of metalloproteinase-2 (gelatinase A) and tissue inhibitor of metalloproteinase-2 (TIMP-2) from hamster tracheal goblet cells: a possible role in upper airway inflammation.";

Submitted (ARR-2000) to the EMBL/GenBank/DDBJ databases.

EMBL, AF260255, AAK51636.1.

InterPro, IPR001820; TIMP.
                                                                                                                                                                                                                                                                                                       51 ALGDAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLODGLLHITTCSFVAPWNSLSL 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     113 RRGFTKTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGSEKGFQSRHLACLPREPG 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWNSLSLAQ 112
                                                                                                                                                             Gaps
                                                                                                                                                                                                                                   2 AVGNATGFRFAYTPAMESLCGYVHKSQNRSEEFLIAGRLRNGNLHITACSFLVPWHNLSP 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ-TTLYQ-----RYEIKMTKMYKGFQALG 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Tissue inhibitor of matrix metalloproteinase-2 (Fragment).
Mesocriceus auratus (Golden hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             36.5%; Score 368.5; DB 11; Length 194; 40.8%; Pred. No. 2.2e-32;
                                                                                                                                                       23; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              67, Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           194 AA; 21763 MW; 1C5D10A3D38A8941 CRC64;
                                                       145 AA; 15954 MW; 7EC7053DA82DE913 CRC64;
                                                                                                      51.0%; Score 515; DB 11;
68.2%; Pred. No. 1.3e-48;
                                                                                                                                                     18; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
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                                                                                                                                                       Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
Pfam; PF00965; TIMP; 1.
NON TER 1 1
SEQUENCE 145 AA; 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00965; TIMP; 1
NON_TER 194 194
                                                                                                                                Similarity
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NCBI_TaxID=10036;
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DISULFID
DISULFID
                                                                                                                                                                                            O9TTB6; PRELIMINARY; PRT; 17
Q9TTB6; (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequen
01-DEC-2001 (TrEMBLrel. 19, Last annota
Metalloproteinase inhibitor 4 (IMP-4)
metalloproteinases-4) (Fragment).
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NON TER
SEQUENCE
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01-MAY-2000 (TrEMBLrel. 11, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
Metalloproteinase inhibitor 3 (TIMP-3) (Tissue inhibitor metalloproteinase)
TECTION (Transment)
             Wang J.F., Boykiw R.H., Reno C.R., Hart D.A., Olson M.E. "Cloning and sequencing of porcine TIMPs."; Submitted (JUN-1999) to the EBL/GenBank/DDBJ databases.-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS AND IRREVERSIBLY INACTIVATES THEM.
-!- SUBCELLULAR LOCATION: EXTRACELLULAR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
Metalloprotease inhibitor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; AF156031; AAF17356.1; HSSP; P16035; 1BR9.
                                                                                               SEQUENCE FROM N.A.
                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                    Sus scrofa (Pig).
                                                                                                                                                                                    TIMP-4.
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"Cloning and sequencing of porcine TIMPS.",
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ da
-i- FUNCTION: COMPLEXES WITH METALLOPROTEINASES
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Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
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                                                                                                                        NCBI_TaxID=9823
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SIMILARITY: BELONGS TO THE TIMP FAMILY.
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Last annotation update)
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0; Mismatches
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TIMP FAMILY.
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Y SIMILARITY.
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Sus.
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Best Local S
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
Metalloproteinase inhibitor 2 (TIMP-2) (Tissue inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9TTB8;
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NON TER 1 1
DISULFID 107 154
DISULFID 112 117
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SMART; SM00206; TIMP; 1.
Metalloprotease inhibitor.
                                                                                                                                                                                                                                                                                                                                                      EMBL; AF156030; AAF17355.1; HSSP; P16035; 1BR9.
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                                                                                                                                                                                                                                                                                                                                   nterPro; IPR001820; TIMP
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                                                                                                                                                                                                                                                                                                                                                                                                                          PTM: THE ACTIVITY OF TIMP-2 IS DEPENDENT DISULFIDE BONDS.
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                                  LVIRAKFVGTPEVNQ-TTLYQ------RYEIKMTKMYKGFQALGDAADIRFVYTPAMESV
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VVIRAKAVSEKEVDSGNDIYGNPIKRIQYEIKQIKMFK-----GPDKDIEFIYTAPSSAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RYEIKQIKMFKGFEKI---SDIQYIYTPFDSSLCG-VKLETNSQKQYLLTGQILSDGKVF
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                                                                                                           Similarity
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39.78;
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                                                                                                           Score 246.5;
Pred. No. 3.0
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Pred. No. 5.8e-23
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                                                                                                        .6e-19;
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2
                                                                            56 CG-VSLDIGGKKEYLIAGKAEGHGKWHITLCDFIVPWDTLSTTQKKSLNHRYQMGC-ECK 113
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Sukaryota: Metazota; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
Cercopithecinae; Macaca.
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Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23.0%; Score 232.5; DB 6; Length 126; 37.6%; Pred. No. 1.1e-17; tive 27; Mismatches 45; Indels 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=PLACENTA;

Ji S., Wang Y., Li H., Ji W., Piao Y.;

"Cloning and characterization of tissue inhibitor of matrix
metalloproteinase-3 (TIMP-3) cDNA from Macaca mulatta.";

Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.

EMBL, AFR66399, AAK53706.1;

InterPro; IPR001820; TIMP.

PF00965; TIMP: 1.
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01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Tissue inhibitor of matrix metalloproteinase-2 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Tissue inhibitor of matrix metalloproteinase-3 (Fragment)
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126 AA; 14690 MW; 2F162249A7D2615E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        126 AA.
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                                                                                                                                                                                                                                                                        114 ITRCPMIPCYISSPDECLWMD 134
                                                                                                                                                                                                129 VFPCLSIPCKLQSGTHCLWTD
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NCBI_TaxID=9544;
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113 IKSCYYLPCFVTS 125
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MEDLINE=21329024; PubMed=11434928; Montagnani C., Le Roux F., Berthe F., Escoubas J.M.; Montagnani C., Le Roux F., Berthe F., Escoubas J.M.; Montagnani C., Le Roux F., Berthe F., Escoubas J.M.; Inducible tissue inhibitor of metalloproteinase from the Pacific oyeter Crassostrea gigas with a potential role in wound healing and defense mechanisms."; FEBS Lett. 500:64-70(2001).

EMBL, AF321279; AAG42824.1; -. HSPP, PR321279; AAG42824.1; -. HSPP, PR001820; TIMP.

InterPro; IPR001820; TIMP.

SMART; SM00206; TIMP: 1.

SEQUENCE 221 AA; 25332 MW; AAS3F67EB137A06A CRC64;
                                                                                                                                                                                                                                                                                                                                                                             96 ITTCSFVAPWNSLSLAQRRGFTKTYTVGCEECTVFPCLSIPCKLQSGTHCLWTDQLLQGS 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 107 SLSLAQRRGFTKTYTVGCEECTVFPC----LSIPCKLQSGTHCLWTDQLLQGSEKGFQSR 162
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                                                                                                                                                                                                                                                                                                                                                                                                          1 ITLCDFIVPWDTLSTTQKKSLNHRYQMGC-ECKITRCPMIPCYISSPDECLWMDWVTEKN 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CTCVPPHPQTAFCNSDLVIRAKFV------GTP---EVNQTTLYQRYEIKMTKMY 46
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tissue inhibitor of metalloproteinase TIMP.
Crassostrea gigas (Pacific Oyster).
Eukaryosta, Metazoa; Mollusca; Bivalvia; Pteriomorphia; Ostreoida; Ostreoidea; Ostreidae; Crassostrea.
                                                                                                                                                                                                                                                                                                                        7;
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                                                                                                                                                                                                                                                        18.7%; Score 188.5; DB 6; Length 97; 38.3%; Pred. No. 5.5e-13; ive 14; Mismatches 35; Indels 1
"Cloning and characterization of tissue inhibitor of matrix metalloproteinase-2 (TIMP-2) cDNA from Macaca mulatta."; submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases. EMBL, AF366398; ARX53705.1; -... Fram, PR00965; TIMP.

Pfam, PR00965; TIMP: 1

SEQÜENCE 97 AA; 11224 MW; 1AA2387A2802533C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TrEMBLrel. 16, Created)
(TrEMBLrel. 16, Last sequence update)
(TrEMBLrel. 19, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      156 EKGFQSRHLACLPREPGLCTW 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60 INGHQAKFFACIKRSDGSCAW 80
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Best Local Similarity 26.8%;
Marches 53; Conservative
                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 38.3%
Matches 31, Conservative
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01-MAR-2001
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=82247191; PubMed=6179042;
MEDLINE=82247191; PubMed=6179042;
Skup D., Windass J.D., Sor F.S., George H., Williams
Skup D., Windass J.D., Sor F.S., George H., Williams
Fukuhara H., De Maeyer-Guignard J., De Maeyer E.;
                                                                                                                                                                                                                                                                                                         NON_TER
NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q8UUZ2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Tissue inhibitor of metalloproteinase 2 (Fragment).
Xenopus laevis (African clawed frog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-720;
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Messenger RNA fragment for mouse interferon beta (Type 1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (JUN-2001) to the
EMBL; AY037944; AAL01592.1;
InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleic Acids Res. 10:306
EMBL; V00755; CAA24132.1;
ISSP; P01033; 1UEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the c-terminal part (Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bequence from N.A.

Leco K., Jung J.-C., Fini M., Edwards
"Role of Matrix Metalloproteinase in N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=8355
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Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8UUZ2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                SMART; SM00206; TIMP; 1
PROSITE; PS00288; TIMP; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Resorption."
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Pfam; PF00965; TIMP; 1.
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CSCSPVHPQQAFCNADILIRAKAITGKEVDNGNDVYGNPIKRIQYEIKQIKMFKG
                                                                CTCVPPHPQTAFCNSDLVIRAKFVGTPEV-NQTTLYQ-----RYEIKMTKMYKG 48
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27; Conserv
                                                                                                                                                                Similarity 27; Conserv
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97 7
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                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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                                                                                                                                                                                                                                                                                                                 AA;
                                                                                                                                                                                                                                                                                                                 10646 MW;
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                                                                                                                                                                                              12.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 149.5; DB 11;
Pred. No. 3.5e-09;
                                                                                                                                                        Score 129.5; DB 13
Pred. No. 1.6e-06;
B; Mismatches 13;
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Metamorphic Tadpole
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                                                                                                                                                                                                                             DB 13; Length
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               92
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RESULT Q9QUW9

13

RESULT Q962H0 ID Q9 AC Q9 DT 01

15

Q962H0 Q962H0; 01-DEC-2001

(TrEMBLrel. 19,

Created)

PRELIMINARY;

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RESULT
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Best Local
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01-MAY-2000
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9QUW9;
                                                                                                                                                                   "Purification and characterization of two mouse sarcoma 180 conditioned medium.";
J. Cell. Biochem. 56:97-105(1994).
HSSP; P01033; 1UEA.
InterPro; JPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SEQUENCE 25 AA; 2678 MW; 923226E82C:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR001820; TIMP. Pfam; PF00965; TIMP; 1. PROSITE; PS00288; TIMP; 1.
                                                                                                                                                                                                                                                                                                                                           Rosenthal R.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus sp
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  endometriosis protein-II (ENDO-II) reveals homology with tissue inhibitor of metalloproteinases-1 (TIMP-1).";
J. Clin. Endocrinol. Metab. 80:3784-3787(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Surewicz K.; "Partial purification and amino acid sequence analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10118;
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
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                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95105266; PubMed=7806596;
                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=10095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Collagenase
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SCAPPHPQTAFCNSDLVIRAKFMGS
                        TCVPPHPQTAFCNSDLVIRAKFVGT
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                                                                                Similarity 84.0
21; Conservative
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(TrEMBLrel. 13, Last sequence update)
(TrEMBLrel. 21, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       inhibitor MS-31
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Rodentia;
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84.0%;
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                                                                                                                                                                                                                                                                                                                                             м. А.,
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Last sequence update)
Last annotation update)
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                                                                                                                                                                                                                                                                                                                                             Shintani Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Fragment)
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                                                                                                    Score 124; DB 11;
Pred. No. 1.3e-06;
                                                                                  Pred. No. 1.30
3; Mismatches
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                                                                                                                                                                          923226E82C1901FD CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebratà; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                             DB 11;
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                                                                                                                                                                                                                                                                                                                                             Megyesi J.F.,
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                                                                                                                           Length
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                                                                                                                                                                                                                                                                                                                                                                            Query Match 10.6%; Score 106.5; DB 5; Length 280; Best Local Similarity 20.8%; Pred. No. 0.0019; Matches 44; Conservative 34; Mismatches 75; Indels 59;
                                                              Cucumaria frondosa.
Eukaryota, Metazoa, Echinodermata, Eleutherozoa, Echinozoa,
Holothuroidea, Dendrochirotacea, Dendrochirotida, Cucumariidae,
                                                                                                                                                                                                                                       dermis.";
Submitted (MAY-2001) to the EMBL/GenBank/DDBJ databases.
EMBL, AY033934; AAK61535.1;
InterPro; IPP01820; TIMP.
Pfam; PF00965; TIMP. 1.
SEQUENCE 280 AA; 31528 MW; 00A6273DF52DA241 CRC64;
01-DEC-2001 (TrEMBLrel. 19, Last sequence update) 01-JUN-2002 (TrEMBLrel. 21, Last annotation update) Tensilin.
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Perfect score:
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Listing first 45 summaries
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     Match
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1 CTCVPPHPQTAFC
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2: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/6BCOMB.pep:*
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version 5.1.3 (c) 1993 - 2002 Compugen Ltd
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 US-09-452-817-2
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US-08-488-163-5
US-09-111-070-5
US-09-262-087-5
US-08-849-764C-5
US-08-588-163-3
US-08-849-764C-3
US-08-849-764C-3
US-08-88-163-3
US-08-88-163-3
US-08-88-163-2
US-08-111-070-4
US-08-88-163-2
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US-08-474-696A-2
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US-08-474-696A-5
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Sequence
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61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106

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1 VYTPAMESVCG	1 CTCVPPHPQTAF	/ Match Local Similari les 106; Cons	NO 2 TH: 106 : PRT NISM: Homo sa 2-817-2	APPLICATION FILING DATE: APPLICATION FILING DATE: FILING DATE: R OF SEQ ID N ARE: Patentin	APPLICATION FILING DATE: FILING DATE: APPLICATION APPLICATION FILING DATE:	FILING DATE: APPLICATION FILING DATE: APPLICATION	OF INVENTION REFERENCE: Se NT APPLICATIO NT FILING DAT APPLICATION	CANT: Anders CANT: Strick CANT: Welgus OF INVENTION OF INVENTION	RESULT 1 US-09-452-817-2 : Sequence 2, Application US/0945281 : Patent No. 6342374 : GENERAL INFORMATION: : APPLICANT: Carmichael, David F		61 10.5 61 10.5 61 10.5 61 10.5 61 10.5 60 10.4 59.5 10.3	2 12. 2 12. 2 12. 5 11.	7 13. 7 13. 7 13. 2 12. 2 12.	
YFHRSHNRSEE	FCNSDLVIRAKFVG7 CNSDLVIRAKFVG7	100.0%; ty 100.0%; ervative	piens	NUMBER: 06/7 1985-10-04 NUMBER: 06/6 1985-02-05 OS: 20 Ver: 2.0	1992-03-18 NUMBER: 07/5 1990-05-01 NUMBER: 07/3 1989-03-08	1995-06-07 NUMBER: 08/0 1993-04-21 NUMBER: 07/8	: Manufactu rial No. 634 N NUMBER: US E: 2001-06- NUMBER: 08/4	on, David C lin, George , Howard G : Human Coll	tion US/0945 : ael, David F		ωφφααφ	0 0 0 0 0 0 0 0 0 4 w	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
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TTCSFVAPWN 106	EIKMTKMYKGFQA EIKMTKMYKGFQA	B 4; Length e-71; 0; Indels						hibitor, Recombinant Ve Recombinant-DNA Method			р			
	LGDAADIRF 6	106; 0; Ga						ctor			Sequence 12, Sequence 12, Sequence 12, Sequence 3, Sequence 12, Sequence 370 Sequence 13,	24 24 53 2,	113 133 134 134 134	
	50 6	ps 0;						System			Appl Appl Appli Appli Appl Appl O1, Ap	7, App 5, App 7, App 30, Ap Appli	App App App App App App	

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1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
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APPLICANT: Hawkins, Phillip R.
APPLICANT: Hawkins, Phillip R.
TITLE OF INVENTION: A NOVEL TISSUE INHIBITOR OF
TITLE OF INVENTION: METALLOPROTEINASES
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CTTY: Palo Alto
CCUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 100.0%; Score 579; DB 1; Best Local Similarity 100.0%; Pred. No. 8.7e-71; Matches 106; Conservative 0; Mismatches 0;
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/111,070
                 US/08/588,163
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/588,163
                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 207 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
LIBRARY: METALLOPROTEINASES
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; Sequence 5, Application US/09111070
; Patent No. 5914392
                                                                                                                                                                                                                  NAME: Luther, Barbara J.
REGISTRATION NUMBER: 33,954
REFERENCE/DOCKET NUMBER: PF-O
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0155
TELEFAX: 415-852-0195
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER REDABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
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NAME: Luther, Barbara T
                 APPLICATION NUMBER: US
FILING DATE: Herewith
                                            FILING DATE: HE
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US-09-452-817-1

US-09-452-817-1

Sequence 1, Application US/09452817

Patent No. 6342374

Sequence 1, Application US/09452817

Patent No. 6342374

APPLICANT: Carmichael, David F

APPLICANT: Carmichael, David C

APPLICANT: StrickIn, George P

APPLICANT: StrickIn, George P

APPLICANT: StrickIn, George P

TITLE OF INVENTION: Human Collagenase Inhibitor, Recombinant Vector System

TITLE OF INVENTION: Human Collagenase Inhibitor, Recombinant DNA Method For TITLE OF INVENTION: Manufacture Of Same

TITLE OF INVENTION: Manufacture Of Same

TITLE OF INVENTION: Manufacture Of Same

FILE REFERENCE: Serial No. 614234 09/452,817

CURRENT APPLICATION NUMBER: 08/050,739

PRIOR FILING DATE: 1992-06-07

PRIOR FILING DATE: 1992-03-18

PRIOR FILING DATE: 1992-03-18

PRIOR FILING DATE: 1992-03-08

PRIOR FILING DATE: 1993-03-08

PRIOR FILING DATE: 1993-03-08

PRIOR APPLICATION NUMBER: 06/784,319

PRIOR PAPLICATION NUMBER: 06/784,319

PRIOR APPLICATION NUMBER: 06/784,319

PRIOR PAPLICATION NUMBER: 06/784,319

PRIOR PAPLICATION NUMBER: 06/784,319

PRIOR APPLICATION NUMBER: 06/784,319

PRIOR APPLICATION NUMBER: 06/784,319

PRIOR APPLICATION NUMBER: 06/784,319

PRIOR APPLICATION NUMBER: 06/784,319

PRIOR PILING DATE: 1985-10-06

SEQUID NO: 20

SERVANCE NELLY NO. 20
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Sequence 5, Application US/08588163

Sequence 5, Application US/08588163

Patent No. 5643750.

APPLICANT: Hawkins, Phillip R. APPLICANT: Murry, Lynn E. TITLE OF INVENTION: A NOVEL TISSUE INHIBITOR OF TITLE OF INVENTION: A NOVEL TISSUE INHIBITOR OF TITLE OF INVENTION: A NOVEL TISSUE INVENTION: A NOVEL TISSUE INVENTION: A NOVEL TISSUE INVENTION: A NOVEL TISSUE INCORRESPONDENCE ADDRESSS:

ADDRESSEE: Incyte Pharmaceuticals, Inc. STREET: 3174 Porter Drive COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 579; DB 4;
100.0%; Pred. No. 7.3e-71;
live 0; Mismatches 0;
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COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.0
Matches 106; Conservative
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ORGANISM: Homo sapiens
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INFORMATION FOR SEQ ID NO:

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TELEPHONE:

415-855-0555

TELEFAX: 415-852-0195

SEQUENCE CHARACTERISTICS:

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; LIBRARY: META; CLONE: TIMP-1 US-09-111-070-5
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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IMMEDIATE SOURCE:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: U9.08/849,764C
FILING DATE: 19-Sep-1997
CLASSIFICATION: <understand the company of the com
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TOPOLOGY: 111
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                                                                                                                                                      TOPOLOGY: linear MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE: 301-309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
ADDRESSEE: HUMAN GENOME SCIENCES, INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: HUMAN TISSUE INHIBITOR OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: GREENE, JOHN M
ROSEN, CRAIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
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amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: MICHELE M. WALES
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Score 579; DB 4;
Pred. No. 8.7e-71;
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                                     Length 207;
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US-09-262-087-5
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Matches 106;
                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                 TELEFAX: 301-309-8439 INFORMATION FOR SEQ ID NO:
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                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/463
PILING DATE: 05-JUN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US
PILING DATE: 13-FEB-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION: TELEPHONE: 301-309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                               TYPE: amino au STRANDEDNESS: TOPOLOGY: lin
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                 61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
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84
                                                                                                                                                                                                                                                                                                                                                               REGISTRATION NUMBER: 36 REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: FILING DATE: 04-MAF CLASSIFICATION:
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                                                          CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
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 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 129
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5, 6391853
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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                                                                                                                       100.0%; Score 579; DB 4; 100.0%; Pred. No. 8.7e-71; tive 0; Mismatches 0;
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COUNTRY:
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US-09-111-070-3
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US-08-463-261B-11
| Sequence 11, Application US/08463261B |
| Patent No. 6448042 |
| Patent No. 6448042 |
| GENERAL INFORMATION: |
| APPLICANT: John M. Greene and Craig A. Rosen |
| TITLE GAPT: John M. Greene and Craig A. Rosen |
| TITLE GAPT: John M. Greene and Craig A. Rosen |
| TITLE GAPT: John M. Greene and Craig A. Rosen |
| TITLE GAPT: John M. GROWE SCIENCES. |
| CORRESPONDENCE ADDRESS: |
| ADDRESSE: HUMAN GENOME SCIENCES, INC. |
| STREET: 9410 KET WEST AVENE |
| CITY: ROCKVILLE |
| STREET: MARYLAND |
| COMPUTER READABLE FORM: |
| MEDIUM TYPE: 3.5 INCH DISKETTE |
| COMPUTER READABLE FORM: |
| MEDIUM TYPE: 13.5 INCH DISKETTE |
| COMPUTER: IBM PSP.2 |
| CLASSIFICATION NUMBER: PCT/US94/1449B |
| FILING DATE: US-05-0194 |
| TELECOMMUNICATION NUMBER: PF.48P1 |
| TELECOMMUNICATION NUMBER: PC.40,302 |
| REGISTRATION NUMBER: PC.40,302 |
| TELERAX: 301-610-6399 |
| TELECOMMUNICATION POR SERIESTICS: |
| EBOGENCE CHARACTERISTICS: |
| EBOGENCE CHARACTERISTICS: |
| EBOGENCE CHARACTERISTICS: |
| CANDRAMATION ACIDS |
| TELEGOMMUNICATION ACIDS |
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
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Sequence 3, Application US/08588163

Parent No. 564375.
GENERAL INFORMATION:
APPLICANT: Hawkins, Phillip R.
APPLICANT: MARY, Lynn E.
TITLE OF INVENTION: METALLOPROTEINASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CTTY: Palo Alto
STATE: CA
COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS:
TOPOLOGY: LINEAR
MOLECULE TYPE: PROTEIN
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1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ-TTLYQ-----RYEIKMTKMYKGFQALG 53
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 40.4%; Score 234; DB 1; Length 220; Best Local Similarity 44.7%; Pred. No. 9e-24; Matches 51; Conservative 15; Mismatches 34; Indels
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Patent No. 5914392

GENERAL INFORMATION:

APPLICANT: Hawkins, Phillip R.

APPLICANT: Murry, Lynn E.

TITLE OF INVENTION: MTALLOPROTEINASES

NUMBER OF SEQUENCES: 5

CORRESPONDENCE ADDRESS:

ADDRESSEE: Incyte Pharmaceuticals, Inc.

STREET: 3174 Porter Drive
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CLASSIFICATION:
PRICR APPLICATION:
APPLICATION DATA:
APPLICATION NUMBER: 08/588,163
MEDIUM TYPE: Diskette
COMPUTER: IBM COMPATISH:
COMPUTER: IBM COMPATISH:
SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/588,16
FILING DATE: Herewith
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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SOFTWARE: FASTSEQ VERSION 1.5
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                        NAME: Luther, Barbara J.
REGISTRATION NUMBER: 33,954
REPERENCE/DOCKET NUMBER: PF-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; LIBRARY: METALLOPROTEINASES; CLONE: TIMP-2
US-08-588-163-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                           FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Luther, Barbara J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
LENGTH: 220 amino acids
TYPE: amino acid
STRANDEDNESS: single
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MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
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5

ATTORNEY/AGENT INFORMATION:

NAME: Luther, Barbara J REGISTRATION NUMBER: 33

REFERENCE/DOCKET NUMBER:

33,954

PF-0053

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RESULT 10
US-08-849-764C-3
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                                                                                     INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9-111-070-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 220 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEFAX: 415-852-0195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDIE: MEI...
LIBRARY: MEI...
TONE: TIMP-2
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                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/849,764C
FILING DATE: 19-Sep-1997
CLASSIFICATION: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: MICHELE M. WALES
                                                                                                                                                              REGISTRATION NUMBER: 43,975
REFERENCE/DOCKET NUMBER: PF
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: GREENE, JOHN M
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: HUMAN TISSUE INHIBITOR OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEKDIEFIYTAPSSAVCG-VSLDVGGKKEYLIAGKAEGDGKMHITLCDFIVPWD 134
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             51;
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                              STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE: MD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: ROCKVILLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE: HUMAN GENOME SCIENCES, INC
STREET: 9410 KEY WEST AVENUE
                                                     TYPE: amino acid
                   TOPOLOGY: linear
                                                                        LENGTH: 218 amino acids
                                                                                                                           TELEFAX: 301-309-8439
                                                                                                                                                TELEPHONE: 301-309-8504
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Pred. No. 9e-24;
                                                                                                                                                                                   PF148US
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US-09-262-087-3
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                                                                                               Matches
                                                                                                                Query Match
Best Local
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                                                                                                                                                                                                                                                                           TELEFAX: 301-309-8439 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                              MOLECULE TYPE:
                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: PCT/
FILING DATE: 13-FEB-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US.
FILING DATE: 04-MAR-19
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/463,261
FILING DATE: 05-JUN-1995
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
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55 AADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWN 106
                              27 CSCSPVHPQQAFCNADVVIRAKAVSEKEVDSGNDIYGNPIKRIYEIKI-KMFK-----GP 80
                                                                                                                                                                                             TOPOLOGY:
                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                        NAME: A. ANDERS BROOKES REGISTRATION NUMBER: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: HUMAN GENOME SCIENCES, INC STREET: 9410 KEY WEST AVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81 EKDIEFIYTAPSSAVCG-VSLDVGGKKEYLIAGKAEGDGKMHITLCDFIVPWD 132
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                                                       1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ-----TTLYQRYEIKMTKMYKGFQALGD 54
                                                                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                                                                                                                                           TELEPHONE:
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                                                                                               50;
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                                                                                                              Similarity
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                                                                                                                                                                                                                                           218 amino acids
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301-309-8439
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                                                                                              Conservative
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                                                                                                             39.0%; Score 226; DB 4; Length 218 44.2%; Pred. No. 1.1e-22;
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                                                                                                                                                                                                                                                                                                                                                                                                                        PCT/US94/14498
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                                                                                               16; Mismatches
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Pred. No. 1.le-22;
Pred. No. 1.le-33; Indels 14;
                                                                                               33;
                                                                                               Indels
                                                                                               14;
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                                                                                                                          Sequence 9, Application US/08463261B
Patent No. 6448042
GENERAL INFORMATION:
APPLICANT: John M. Greene and Craig A. Rosen
TITLE OF INVENTION: Human Tissue Inhibitor of Metalloproteinase-4
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55 AADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWN 106
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81 EKDIEFIYTAPSSAVGG-VSLDVGGKKEYLIAGKAEGDGKMHITLCDFIVPWD 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39.0%; Score 226; DB 4; Length 218; 44.2%; Pred. No. 1.1e-22; tive 16; Mismatches 33; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 4, Application US/08588163
Sequence 10 5643752
GENERAL INFORMATION:
APPLICANT: Hawkins, Phillip R.
TITLE OF INVENTION: A NOVEL TISSUE INHIBITOR OF TITLE OF INVENTION: METALLOPROTEINASES
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
                                                                                                                                                                                                                                                                                          ADDRESSEE: HUMAN GENOME SCIENCES, INC. STREET: 9410 KEY WEST AVENE CITY: ROCKVILLE STATE: MARYLAND COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 20850
ZIP: 20850
COMPUTER REAABLE FORM:
MEDIUM TYPE: 3 INCH DISKETTE
COMPUTER: 1BM PS/2
COMPUTER: 1BM PS/2
COMPUTER: 1BM PS/2
COMPUTER: 1BM PS/2
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/463,261B
FILING DATE: 05-JUN-1995
CLASSIFICATION:
PRIOR APPLICATION UMBER: PCT/US94/14498
FILING DATE: 13-DEC-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PF148P1
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NAME: KENLEY K. HOOVER
REGISTRATION NUMBER: 40,302
REFERENCE/DOCKET NUMBER: PF14(
TELECOMMUNICATION INFORMATION:
TELEPHONE: 301-610-5790
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 218 AMINO ACIDS
TYPE: AMINO ACID
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Matches 50; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: LINEAR MOLECULE TYPE: PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-463-261B-9
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1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ---TTLYQRYEIKMTKMYKGFQALGDAAD 57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouery Match 37.1%; Score 215; DB 1; Length 211; Best Local Similarity 41.3%; Pred. No. 3.3e-21; Matches 45; Conservative 20; Mismatches 34; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58 IRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLODGLLHITTCSFVAPWN 106
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Sequence 4, Application US/09111070

Patent No. Splication US/09111070

Patent No. Splication US/09111070

Patent No. Splication US/09111070

APPLICANT: Hawkins, Phillip R.

APPLICANT: Hawkins, Phillip R.

APPLICANT: Hawkins, Phillip R.

TITLE OF INVENTION: METALLOPROTEINASES

NOMBER OF SEQUENCES: 5

NOMBER OF SEQUENCES: 5

NOMBER OF SEQUENCES: 5

NOMBERSES: Incyte Pharmaceuticals, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Incyte Pharmaceuticals, Inc
3174 Porter Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 3174 Porter Drive
CITY: Palo Alto
STATE: CA
COUNTRY: US
ZIP: 94304
COMPUTER: BADABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/111,070
                                                                                                                       MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/588,163
FILING DATE: Herewith
CLASSIFICATION BI4
PR.OR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
FILING DATE:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 4: SEQUENCE CHARACTERISTICS: LENGTH: 211 amino acids TYPE: amino acid STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: peptide IMMEDIATE SOURCE: LIBRARY: METALLOPROTEINASES CLONE: TIMP-3
                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Luther, Barbara J. REGISTRATION NUMBER: 33,954 REFERENCE/DOCKET NUMBER: PF-TELECOMMUNICATION INFORMATION: TELEPHONE: 415-855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 415-852-0195
                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
Palo Alto
                                                S
                                                                      94304
                        STATE: C. COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-588-163-4
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FILING DATE: CLASSIFICATION: PRIOR APPLICATION DATA:

ATTORNEY/AGENT INFORMATION:

APPLICATION NUMBER: 08/588,163 FILING DATE:

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RESULT 15
US-08-849-764C-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 4, Application US/08849764C Patent No. 6300310 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
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SEQUENCE CHARACTERISTICS:
LENGTH: 211 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
LIBRARY: METALLOPROTE:
CLONE: TIMP-3
TELEPHONE: 301-309-8504
TELEPAX: 301-309-8439
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Luther, Barbara J.
REGIZION NUMBER: 33,954
REFERENCE/DOCKET NUMBER: PF
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
                                                                                                                                  COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/849,764C
FILING DATE: 19-Sep-1997
CLASSIFICATION: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: MICHELE M. WALES
DESCRIPTION OF THE MALES
NAME: MICHELE M. WALES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              y radich 37.1%; Score 215; DB 2; Length 211; Local Similarity 41.3%; Pred. No. 3.3e-21; ne. 45; Conservative 20; Mismatches 34.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 415-852-0195
                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESSEE: HUMAN GENOME SCIENCES, INC.
STREET: 9410 KEY WEST AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ROSEN, CRAIG
TITLE OF INVENTION: HUMAN TISSUE INHIBITOR OF
METALLOPROTEINASE-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: GREENE, JOHN M
ROSEN, CRAIG
                                                                          REGISTRATION NUMBER: 43,975
REFERENCE/DOCKET NUMBER: PF148US
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                STATE: MD
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: ROCKVILLE
                                                                                                                                                                                                                                                                                                                                                                 ZIP: 20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               METALLOPROTEINASES
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; STRANDEDNESS: single; TOPOLOGY: linear; MOLECULE TYPE: protein; SEQUENCE DESCRIPTION: SEQ ID NO: 4: US-08-849-764C-4
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                                                                                                                                                                 Best Local Similarity 41.3
Matches 45; Conservative
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--YIHTEASESLCGL--KLEVNKYQYLLTGRVYDGKMYTGLCNFVERWD 124
                                       IRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                   CTCSPSHPQDAFCNSDIVIRAKVVGKKLVKEGPFGTLV--YTIKQMKMYRGFTKMPHV-- 79
                                                                                                                           CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ---TTLYQRYEIKMTKMYKGFQALGDAAD 57
                                                                                                                                                                                                                                                                                                                                                              LENGTH: 210 amino acids TYPE: amino acid
                                                                                                                                                                   36.2%; Score 209.5; DB 4; Length 210;
41.3%; Pred. No. 1.8e-20;
tive 18; Mismatches 35; Indels 11
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Search completed: December 17, 2002, 15:06:34 Job time : 9.4069 secs

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15:12:46 2002

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB
Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Perfect score:
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seq length: 200000000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1984.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1985.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1986.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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579	579	579	579	579	579	579	579	579	579	Score
100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	Query
207	207	207	207	207	207	204	184	128	127	Query Match Length DB
21	20	18	7	7	7	23	23	23	23	DB
AAB19073	AAY08933	AAW30309	AAP60592	AAP60275	AAP60786	ABP42206	AAU99875	AAU99887	AAU99886	ID
Inhibitor of tissu	Human TIMP-1 prote	Human TIMP-1. Hom	Sequence of a huma	Sequence of human	Sequence of tissue	Human ovarian anti	Human tissue inhib	Human TIMP 1-128 p	Human TIMP 1-127 p	Description

45	44	43	42	41	40	39	38	37	36	3 5	34	ω u	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
218	227	227	227	233	233	234	234	234	234	234	234	234	234	234	235	236	236.5	239.5	428.5	458	484	491	494	507	508	558	565	576	579	579	579	579	579	579
7		9	9	0	0	40.4	0	0		40.4	40.4	40.4	40.4	40.4	40.6	40.8	40.8	41.4	74.0	79.1	83.6	84.8	. 85.3	87.6	87.7	96.4	97.6	99.5	100.0	100.0	100.0	100.0	100.0	100.0
212	220	220	220	220	194	237	220	220	220	220	220	220	194	194	194	47	193	192	207	205	212	162	207	206	207	183	207	207	580	580	522	522	207	207
16	19	15	11	23	23	23	21	20	19	16	15	11							16	16	23	23	16	16	16	21	16	7	23	23	23	23	22	22
AAR65002	AAW48256	AAR62768	AAR07954	ABB57031	AAG80278	ABP41537	AAB19074	AAY08931	AAW48253	00	AAR62769	AAR07955	ABB08904	AAR06898	AAG80276	AAP60276	AAG80277	AAR06895	AAR65008	AAR65007	ABP42381	ABP42434	AAR65004	AAR65006	AAR65003	AAB44149	8	AAP60593	AAU99889	AAU99882	AAU99885	AAU99883	AAG89171	AAM93377
Chicken tissue inh	Bovine metalloprot	Bovine metalloprot	Bovine metalloprot	Mouse ischaemic co	Rat matrix metallo	Human ovarian anti	Inhibitor of tissu	Human TIMP-2 prote	Human metalloprote	Human tissue inhib	Human metalloprote	Human metalloprote	Tissue inhibitor o	Complete sequence	Matrix metalloprot	N-terminal sequenc	Human matrix metal	Metalloproteinase	Mouse tissue inhib	tissue	Human ovarian anti	Human ovarian anti	sue inhibi		Cattle tissue inhi	Human cancer assoc	O	Sequence of a gibb	rTAP1 fusion prote	TAP1 fusion protei	P1 fusio	sion p	98	Human polypeptide,

ALIGNMENTS

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RESULT 1
AAU99886
TIMP 1-127; Alzheimer's disease; tumour angiogenesis; malaria; emphysema; asthma, chronic obstructive pulmonary disease; cystic fibrosis; otitis media; otitis external; HIV; psoriasis; eczema; human immunodeficiency virus; atopic dermatitis; muscular dystrophy; herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease; tumour metastasis; osteoporosis; Paget's disease; scleroderma;
                                                        18-DEC-2000;
20-NOV-2001;
                                                                                                                                                                                                                                                                                              Human TIMP 1-127 protein.
          Barr PJ,
                                  (ARRI-) ARRIVA PHARM INC
                                                                                            18-DEC-2001; 2001WO-US49256
                                                                                                                        27-JUN-2002
                                                                                                                                               WO200250287-A2
                                                                                                                                                                      Homo sapiens.
                                                                                                                                                                                               glomerulonephritis; hypertension
                                                                                                                                                                                                                                                                                                                        07-OCT-2002
                                                                                                                                                                                                                                                                                                                                                 AAU99886;
                                                                                                                                                                                                                                                                                                                                                                        AAU99886 standard; Protein; 127 AA
         Gibson HL,
                                                        2000US-256699P
2001US-331966P
                                                                                                                                                                                                                                                                                                                       (first entry)
         Pemberton
           φ,
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protease inhibitor comprising an alphal-antitrypsin or its functionally active portion and a second protease inhibitor or its functionally active portion and a second protease inhibitor or its functionally continued protease inhibitor of protease activity. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease, cystic fibrosis, ortitis media, ortitis external or HIV infection, or for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermarological diseases such as atopic dermaritis, eczema and psoriasis, in inflammancory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, the proposed to the protein disease, and tumour magingenesis, agastric ulceration, corneal or proposed to ulceration, corneal or ulcerat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria, bacterial infection, Alzheimer's disease, hypertension and muscular dystrophy. The present sequence represents the human TIMP 1-127 protein
                                                                                                                              Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This invention relates to a novel fusion protein comprising a first
                                                                                                                                                                                                                                                                                                                                                                                Example 4; Page 99; 134pp; English.
                                                N-PSDB; ABK88028
                                                                                                                                                                                                                                                                               inhibitor
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100.0%; Score 579; DB 23; Length 127; 100.0%; Pred. No. 5.7e-65; ive 0; Mismatches 0; Indels 0 127 AA; invention Sequence

Best Local Similarity 100. Matches 106; Conservative Local Similarity

Query Match

1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYBIKMTKMYKGFQALGDAADIRF 60 2 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 61 VYTPAMESVCGYFHRSHNRSEBFLIAGKLODGLLHITTCSFVAPWN 107 61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLODGLLHITTCSFVAPWN 106 g ò ò

AAU99887 standard; Protein; 128 AA. AAU99887; RESULT 2 AAU99887

d

(first entry) 07-OCT-2002

Human TIMP 1-128 protein.

TIMP 1-128; Alzheimer's disease; tumour angiogenesis; malaria; emphysema; asthma; chronic obstructive pulmonary disease; cystic fibrosis; ottiss media; ottiss external; HIV; psoriasis; eczema; human immunodeficiency virus; atopic dermatitis; muscular dystrophy; herpes, ulceration; sepsis; rheumatoid arthritis; periodontal disease; tumour metastasis; osteoporosis; Paget's disease; scleroderma; glomerulonephritis; hypertension.

Homo sapiens

27-JUN-2002

WO200250287-A2

18-DEC-2001; 2001WO-US49256

18-DEC-2000; 2000US-256699P. 20-NOV-2001; 2001US-331966P.

(ARRI-) ARRIVA PHARM INC

<u>с</u>, Pemberton Barr PJ, Gibson HL,

WPI; 2002-500631/53

N-PSDB; ABK88029

Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease inhibitor

Example 4; Page 100; 134pp; English.

This invention relates to a novel fusion protein comprising a first protease inhibitor comprising an alphal-antitrypsin or its functionally active portion and a second protease inhibitor or its functionally active portion. The fusion proteins of the invention may act as an inhibitor of protease activity. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease.

C ystic fibrosis, otitis media, otitis external or HIV infection, or for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases such as atopic dermatitis, eccema as psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tumour metastasis and tumour angiogenesis, gastric ulceration.

C osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria, bacterial infection, Alzheimer's disease, hypertension and muscular discretion. of the invention.

128 AA; Sequence

.; 0

Gaps

. 0

Gaps ö Length 128; Indels 100.0%; Score 579; DB 23; 100.0%; Pred. No. 5.7e-65; ive 0; Mismatches 0; Query Match 100. Best Local Similarity 100. Matches 106; Conservative

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1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 61 N 엄 à

61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAFWN 107 ò

RESULT 3 **AAU9987**

62

d

AAU99875 standard; Protein; 184 AA (first entry) 07-OCT-2002 AAU99875;

Human tissue inhibitor of metalloproteases (TIMP).

Tissue inhibitor of metalloproteases; human; TIMP; protease inhibitor; malaria; emphysema; asthma; dhronic obstructive pulmonary disease; cystic fibrosis; oritis media; otitis external; HIV; psoriasis; eczema; human immunodeficiency virus; atopic dermatitis; muscular dystrophy; herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease; tumour metastasis; tumour angiogenesis; osteoporosis; Paget's disease; glomerulonephritis; scleroderma; Alzheimer's disease; hypertension.

Homo sapiens

WO200250287-A2.

27-JUN-2002

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RESULT 4
ABP42206
ID ABP4
XX
AC ABP4
XX
DT 22-A
DT 22-A
DX
DX
W Huma
XX
Huma
XW
Onfe
KW Onfe
KW infe
KW infe
KW infl
KW gastd
KW gene
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protease inhibitor comprising an alphal-antitypsin or its functionally cactive portion and a second protease inhibitor or its functionally active protein. The fusion proteins of the invention may act as an issue protein of protease activity. The fusion protein of the invention compared in the invention of its useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease, compared in the invention or compared in the invention of the invention or compared in the invention of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This invention relates to a novel fusion protein comprising a first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease
inflammatory condition; immune disorder; blood disorder; cardiovascular disorder; respiratory disorder; neurological disorder; gastrointestinal disorder; urinary system disorder; drug screening; gene therapy; chromosome mapping; forensic analysis;
                                                                                                                                                                                                                                                                                                                                                                                                          ABP42206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18-DEC-2000;
20-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-DEC-2001; 2001WO-US49256.
                                                                                                  ovarian cancer; breast cancer; tumour; reproductive system disord infertility; pregnancy disorder; anovulation; polycystic ovary sy PCOS; ovarian cyst; dysmenorrhoea; endocrine disorder; infection;
                                                                                                                                                                                                                                         Human ovarian antigen HCOQO79,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ARRI-) ARRIVA PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            metalloproteases used to create the fusion protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
                                                                                                                                                                                 ovarian antigen; ovary; ovarian; breast; cancer; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                          standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gibson HL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Page 37; 134pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-256699P.
2001US-331966P.
                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                          Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pemberton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 579; DB 23;
Pred. No. 9.2e-65;
); Mismatches 0;
                                                                                                                                                                                                                                         SEQ ID NO: 3338
                                                                                                                                                        reproductive system disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 106
                                                                                                                              ovary syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                       5
                                                                                                                                                                                                                                                                                                                   CC recombinant vectors and host cells comprising human ovarian antigens of the invention according human ovarian antigens and the use of ovarian antigens polynucleotides and polypeptides in diagnosing, cc treating, prognosing or preventing various ovary and/or breast related disorders. Such conditions include ovarian cancer and breast cancer, and cc metastatic tumours of ovarian or breast origin, reproductive system completes, infections (e.g., infertility, disorders of pregnancy, anovulation, cc polycystic ovary syndrome, ovarian cysts, and dysmenorrhoea), endocrine cd disorders, infections (e.g., chlamydia, HIV, toxoplasmosis, and toxic shock syndrome), inflammatory conditions (e.g., masticis ophoritis and cc immunodeficiencies, autoimmune ophoritis, systemic lupus erythematosus), communodeficiencies, autoimmune ophoritis, systemic lupus erythematosus), communodeficiencies, autoimmune ophoritis, systemic lupus erythematosus), complication related disorders (e.g., congenital and acquired conductive system disorders, neurological disorders, gastrointestinal disorders (c.g., and urinary system disorders. Ovarian antigen polypeptides and cc polynucleotides may also be used in screening for compounds which compounds which conducted the sequence for gene therapy, chromosome mapping, in the conjugation of individuals and in forensic analysis, and the conjugation of the invention.

CC Note: The sequence data for this patent did not form part of the printed effects when his patent did not format directly from WIPO car fern wino intrinuhmental or sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABP43228) and to cDNAs encoding them (ABQ54131-ABQ56305), and also encompasses polypeptides 90% identical and polynucleotides 95% identical to the sequences of the invention. The invention additionally relates to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Isolated nucleic acid molecules encoding novel ovarian polypeptides, useful in the prevention, treatment and diagnosis of cancer (e.g. ovarian cancer), immune disorders, cardiovascular disorders and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to 2175 novel human ovarian antigens (ABP41054-ABP43228) and to cDNAs encoding them (ABQ54131-ABQ56305), and also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         neurological diseases -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-JUN-2000; 2000US-209467P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-JUN-2001; 2001WO-US18569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antiinflammatory; gynaecological; reproductive
                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200200677-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antibody preparation; cytostatic; immunomodulatory; neuroprotective;
82
                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                       ftp.wipo.int/pub/published_pct_sequences.
                                VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                         CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                    CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
  VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID No 3338;
                                                                                                                                                                                                                                                                  204
                                                                                                                                                                         Conservative
                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2922pp; English
                                                                                                                                                                         0,
                                                                                                                                                                                           Score 579; DB 2
Pred. No. 1e-64;
                                                                                                                                                                         Mismatches
                                                                                                                                                                                                              DB 23;
                                                                                                                                                                         0,
                                                                                                                                                                                                              Length 204;
                                                                                                                                                                         0,
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The patentors claim the AA SQ of human NIC, DNA sequences coding for NIC, and its RNA analogues and plasmids contg. this DNA. NIC inhibits the activity of metallo-proteinases, esp. of collagenase, proteoglycanase, glatinase or a leucocyte, macrophage or tumour cell metallo-proteinase.

(Updated on 03-OCT-2002 to add missing OS field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 83
                                                                                                                                                                                                                                                                                                                                                                                     New human natural inhibitor of collagenase - for treating e.g. rheumatoid arthritis or ulceration, and new DNA sequences coding for it
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 207;
                                 Metallo-proteinase inhibitor; wound healing; emphysema;
rheumatoid arthritis therapy; ulceration; tumour metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence of a human protein having erythroid potentiating activity (EPA).
         Sequence of human natural inhibitor of collagenases (NIC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VYTPAMESVCGYFHRSHNRSEEFLIAGKLODGLLHITTCSFVAPWN 129
                                                                                                                                                                /note= "potential glycosylation site"
101..103
/note= "potential glycosylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 579; DB 7;
100.0%; Pred. No. 1.1e-64;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Erythroid precursor growth; anaemia therapy
                                                                                                                                                                                                                                                                                                                                    McCullagh KG;
                                                                                            ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Z
                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Fig 2; 51pp; English.
                                                                                                                              24..207
/note= "claimed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAP60592 standard; Protein; 207
                                                                                                          1..23
/label= signal
                                                                                                                                                                                                                                                               86EP-0100482.
                                                                                                                                                                                                                                                                                      85US-0692808
                                                                                                                                                                                                                                                                                                                                   Clissold PM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                             (SEAR ) SEARLE G D & CO.
                                                                                                                                                                                                                                                                                                                                                        WPI; 1986-205910/32.
N-PSDB; AAN60277.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    207 AA;
                                                                                                                                                      Modified-site
                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                               16-JAN-1986;
                                                                                                                                                                                                                                                                                                                                    Galloway WA,
                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                      18-JAN-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13-AUG-1991
                                                                                                                                                                                                                                        06-AUG-1986.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 106;
                                                                                                                                                                                                                EP189784-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
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                                                                                                       Peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A gene with residues 64-684 of AAN60538 is claimed. AAN60538 was isolated from human a foetal diploid lung cells (ATCC CLL153) cDNA library using AAN60539.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of metallo-proteinase inhibitors - by recombinant DNA
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                                                                                  Sequence of tissue inhibitor of metalloproteinase (TIMP)
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                                                                                                                                                               1.23
/label= signal
24..207
53..55
/label= potential N-glycosylation site
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Docherty AJP,
                                                                                                         Connective tissue; extracellular matrix
                                                                                                                                                      Location/Qualifiers
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                                                                                                                                                                                                                         101..103
/label= as above
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Fig 3; 16pp; English
            AAP60786 standard; Protein; 207
                                                                                                                                                                                                                                                                                                                                  85GB-0026951.
85GB-0000341.
86GB-0000199.
85GB-0500341.
83BE-0897924.
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(first entry)
                                                           (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                           (CELL-) CELLTECH LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1986-177873/28.
N-PSDB; AAN60538.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   207 AA;
                                                                                                                                                                                           Protein
Modified-site
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06-JAN-1986;
07-JAN-1985;
                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                             06-JAN-1986;
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08-AUG-1991
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                                   AAP60786;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                   Peptide
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  AAP60786
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                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The inventors claim human and gibbon EPA proteins (AAP60592, AAP60593) and cDNA that encodes EPA (AAN60494, AAN60495). The EPA protein has a biological activity of at least about 1,000,000 units per mg of protein and has an apparent molecular weight of about 28,000 daltons.
         N-PSDB; AAT92631
                   WPI; 1997-498341/46.
                                                             29-FEB-1996;
                                                                                 29-FEB-1996;
                                                                                                      09-SEP-1997
                                                                                                                          JP09235300-A
                                                                                                                                                                   TIMP-3; human; antibody; TIMP-3-mediated disease; malignant tumour cancer progression; TIMP-1.
                                                                                                                                                                                                   Human TIMP-1
                                                                                                                                                                                                                        29-JAN-1998
                                                                                                                                                                                                                                             AAW30309
                                                                                                                                                                                                                                                                AAW30309 standard; Protein; 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vectors contg. gene for protein having erythroid potentiating activity - used for producing protein to stimulate growth and formation of erythroid cells
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                                                                                                                                               Homo sapiens
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                                        (FUJY ) FUJI PHARM IND CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1986-106663/16.
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                                                                                                                                                                                                                                                                                                                                VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
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                                                                                                                                                                                                                                                                                                                     VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
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                                                                                                                                                                                                                                                                                                                                                                                                        106;
                                                                                                                                                                  progression;
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REGENTS OF UNIV OF CALIFO.
                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAN60494.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Clark S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                207 AA;
                                                                                                                                                                                                                                                                                                                                                                                                      100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fig 4; 59pp; English.
                                                                                                                                                                                                                       (first entry)
                                                             96JP-0067484.
                                                                                  96JP-0067484.
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Pred. No. 1.1e-64;
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RESULT 9
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Best Local
                                                                                                                                                                 18-JAN-1996;
27-JUN-1997;
07-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This sequence represents the human TIMP-1 protein. This sequence was used to test the specificity of the monoclonal antibody (MAb) of the invention. The MAb of the invention reacts specifically with human TIMP-3 (see AAW30308), by specific recognition of the TIMP-3 fragments represented by AAW30305-W30307. The MAb can be used in the study or diagnosis of TIMP-3-mediated diseases, particularly for the detection of malignant tumour cells, or the diagnosis of progressiveness of cancers. They can also be used in establishing an immunoassay for TIMP-3 or its equivalent proteins on a large scale. The immunoassay method for TIMP-3 the MAbs is simple, highly reproducible and highly
                                                                                                                                                                                                                                                                                                                                                TIMP-4; tissue inhibitor of metalloprotease; human; antibody; diagnosis; treatment; metastasis; neoplastic cell; angiogenesis; tumour; cervical; uterine; pancreatic; colon; intestinal carcinoma; pregnancy; ulcer; osteoarthritis; pulmonary emphysema; peridontal disease; corneal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human TIMP-3 and anti-human TIMP-3 monoclonal antibodies - used diagnosis of TIMP-3 mediated diseases, especially the detection malignant tumour cells \,
                                                   Anti-tissue inhibitor metalloproteinase antibodies useful
                                                                                                            Hawkins PR,
                                                                                                                                                                                                                         07-JUL-1998;
                                                                                                                                                                                                                                                                                                              Homo
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY08933 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 12; Page 33-34; 37pp; Japanese
                                      treating
                                                                                                                                        (INCY-) INCYTE PHARM INC
                                                                                                                                                                                                                                                     22-JUN-1999
                                                                                                                                                                                                                                                                                  US5914392-A.
                                                                                                                                                                                                                                                                                                                                          rheumatoid arthritis; diabetic ulcer; lesion; TIMP-4.
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                                                                                 1999-384187/32
                                                                                                                                                                                                                                                                                                            sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 129
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                                     and diagnosing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207 AA;
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                                                                                                            Murry LE
                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                 96US-0588163.
97US-0884073.
98US-0111070.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                       cancer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 579; DB 18;
Pred. No. 1.1e-64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 18;
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Disclosure; Fig

English

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                                    The anti-TIMP-4 antibodies may be used to treat, prevent or diagnose matastasis of neoplastic cells, angiogenesis and growth tumours such as cervical, uterine, pancreatic, colon or intestinal carcinomas, pregnancy, osteoarthritis, pulmonary emphysema, peridontal disease, rheumatoid arthritis, corneal or diabetic ulcers or ulcers and lesions caused by microorganisms. This sequence represents TIMP-4 which is used to describe the method of the invention.
This invention describes a novel method for the production of antibodies specific for the human tissue inhibitors of metalloproteinase 4, TIMP-4.
                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                             83
                                                                                                                                                                                                                                                                                                                                                                    CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMYKGFQALGDAADIRF
                                                                                                                                                                                                                                                                                                                                     CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
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                                                                                                                                                                                                                                                   100.0%; Score 579; DB 20;
100.0%; Pred. No. 1.1e-64;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                207 AA;
                                                                                                                                                                                                                                                                             Best Local Sim
Matches 106;
                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                     Query Match
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metalloproteinase inhibitor; TIMP; metalloproteinase; gelatinase;
                                           Inhibitor of tissue metalloproteinase designated TIMP-1.
                                                                                                24..207
/note= "mature protein"
                                                                                           /note= "signal peptide"
                                                                                 Location/Qualifiers
         AAB19073 standard; protein; 207 AA
                                (first entry)
                                                                      Unidentified
                                                                                                                  EP1041083-A1
                                08-FEB-2001
                                                            metastasis;
                     AAB19073;
                                                                                                 Protein
                                                                                      Peptide
                                                      Tissue
RESULT 10
    AAB19073
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New modified tissue inhibitor of metalloproteinases, useful for manufacturing compositions for inhibiting metastasis of cancer and vascularisation and for preventing or treating diseases associated with (ORIY) ORIENTAL YEAST CO LID. 99JP-0095142. 03-APR-2000; 2000EP-0107041 Higashi S; WPI; 2000-603818/58. Miyazaki K, 01-APR-1999;

04-OCT-2000

Disclosure; Page 12-13; 25pp; English.

these, e.g. brain tumor

The present sequence represents an inhibitor of tissue metalloproteinase, designated TIMP. The specification describes modified forms of TIMP, where the amino-terminal alpha-amino group is modified with an electron accepting group to substantially lose the ability to bind to a metalloproteinase. Modified TIMP-2 prevents an accumulation of active gelatinase. A on the cell surface, and can inhibit the activation of

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Note: The sequence data for this patent did not form part of the printed specification, but was obtained in CD-ROM format directly from EPO.
precursor matrix matelloproteinases. The modified TIMP-2 and the compositions comprising TIMP-2 are useful for inhibitual meteastasis of cancer and vascularisation. It is also used for treating diseases associated with them. Specifically, these are useful for preventing or treating metastasis of cancer of the stomach, colon, lung, head and neck, brain tumour, breast, thyroid, prostate, ovary or pancreas, or vascularisation or other conditions associated with these.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Primers useful for synthesizing full length cDNA clones and their
                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                   1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to primers for synthesising full length cDNA
                                                                                                                                                                                                                                                                             24 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kawai Y;
T, Koga
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0
                                                                                                                                                                              Length 207;
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                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                           VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 129
                                                                                                                                                                                                                                                                                                                       61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hayashi K, Ishii S,
K, Kojima S, Otsuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; full length cDNA; cDNA synthesis; oligo-capping.
                                                                                                                                                                            , DB 21;
1.1e-64;
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                                                                                                                                                                                                               Mismatches
                                                                                                                                                                            100.0%; Score 579;
100.0%; Pred. No. 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human polypeptide, SEQ ID NO: 2953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Isogai T,
ma T, Nagai
                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                AAM93377 standard; Protein; 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 08-JUL-1999; 99JP-0194486.
11-JAN-2000; 2000JP-0118774.
02-MAY-2000; 2000JP-0183765.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-JUL-2000; 2000EP-0114089.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in genetic manipulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                               Matches 106; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sugiyama
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N-PSDB; AAK94297.
                                                                                                                                                                                              Similarity
                                                                                                                                           207 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EP1130094-A2
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                                                                                                                                               Sequence
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Matches Query Match Best Local

106;

Conservative

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207;

Similarity

100.0%;

Score 579; DB 22; Pred. No. 1.1e-64;

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Sequence
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RESULT 12
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                                                           CC diseases associated with inappropriate GENSET gene expression. For any content of the content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Full length GENSET human nucleic acids encoding potentially secreted proteins, useful in gene therapy and vaccination against a variety o diseases, and for diagnosis of those diseases -
                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to full length GENSET human nucleic acids encoding potentially secreted proteins. The nucleic acids and the polypeptides they encode may be used in the prevention, treatment and diagnosis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 21; Page 825; 921pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAH64774.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-367870/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dumas Milne Edwards
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-DEC-2000; 2000WO-IB01938
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENSET.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-SEP-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (GEST ) GENSET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAG89171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     106;
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                                            sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    $
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein;
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                                          T polypeptide expression and activity GENSET polypeptide of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bougueleret L,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene therapy; vaccine; treatment;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
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Pred. No. 1.1e-64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diagnosis;
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     protease inhibitor comprising an alphal-antitrypsin or its functionally active portion and a second protease inhibitor or its functionally active protein. The fusion proteins of the invention may act as an inhibitor of protease activity. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease,
                                                                                                                                                              Novel fusion protein useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease
                                                                                            This invention relates to a novel fusion protein comprising
                                                                                                                                                                                                                      N-PSDB; ABK88024.
                                                                                                                                                                                                                                                                                                                   18-DEC-2000; 2000US-256699P
20-NOV-2001; 2001US-331966P
                                                                                                                                                                                                                                                                                                                                                             18-DEC-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
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Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   glomerulonephritis; hypertension
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               herpes; ulceration; sepsis; rheumatoid arthritis; tumour metastasis; osteoporosis; Paget's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       malaria; emphysema; asthma; chronic obstructive pulmonary disease; cystic fibrosis; otitis media; otitis external; HIV; psoriasis; eczema;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NTAP1 fusion protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU99883;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAU99883 standard; Protein;
                                                                                                                       Example 2;
                                                                                                                                                                                                                                     WPI; 2002-500631/53
                                                                                                                                                                                                                                                                                            (ARRI-)
                                                                                                                                                                                                                                                                                                                                                                                         27-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human immunodeficiency virus; atopic dermatitis; muscular dystrophy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alzheimer's disease; tumour angiogenesis; a; emphysema; asthma; chronic obstructive
                                                                                                                                                                                                                                                                                          ARRIVA PHARM
                                                                                                                       Page 87; 134pp; English
                                                                                                                                                                                                                                                                                                                                                              2001WO-US49256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry
otitis media, otitis
                                                                                                                                                                                                                                                               HL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "Linker methionine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                note=
                                                                                                                                                                                                                                                                                            INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 522
                                                                                                                                                                                                                                                                Pemberton
                                                                                                                                                                                                                                                                                                                                                                                                                                                "Amino acids 1-394 of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Human TIMP-1 amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  522
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external or HIV in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       acids 1-184"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  periodontal scleroderma
                                                                             or its functionally
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disease;
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for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases such as atopic dermatitis, eczema and psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tummour metastasis and tummour angiogenesis, gastric ulceration, bacterial infection, Alzheimer's disease, hypertension and muscular dystrophy. The present sequence represents the NTAP1 fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rN-TAPI; Alzheimer's disease; tumour angiogenesis; malaria; emphysema; asthma; chronic obstructive pulmonary disease; cystic fibrosis; otitis media; otitis external; HIV; psoriasis; eczema; human immunodeficiency virus; atopic dermatitis; muscular dystrophy; herpes; ulceration; sepsis; rheumatoid arthritis; periodontal disease; tumour metastasis; osteoporosis; Paget's disease; scleroderma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel fusion protein useful for inhibiting protease activity associated
                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                    1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                        CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
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                                                                                                                                                                                                                                        Length 522;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Linker methionine"
397..522
/note= "Amino acids 1-126 of human TIMP-1"
                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                    VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 107
                                                                                                                                                                                                                                                                                                                                                                   61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "Human AAT amino acids 1-394"
                                                                                                                                                                                                                                      100.0%; Score 579; DB 23;
100.0%; Pred. No. 3.5e-64;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pemberton P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           glomerulonephritis; hypertension.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAU99885 standard; Protein; 522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-DEC-2000; 2000US-256699P.
20-NOV-2001; 2001US-331966P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-DEC-2001; 2001WO-US49256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                      Matches 106; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (ARRI-) ARRIVA PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rN-TAP1 fusion protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Barr PJ, Gibson HL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2002-500631/53
                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                          522 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ABK88027
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-OCT-2002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAU99885;
                                                                                                                                                                                                            Sequence
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procease inhibitor comprising an alphal-antitrypsin or its functionally active portion and a second protease inhibitor or its functionally active portion and a second protease inhibitor or its functionally cartive protein. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder such as emphysema, asthma, chronic obstructive pulmonary disease, cystic fibrosis, otitis media, office external or HIV infection, or for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases such as atopic dermatitis, eczema and psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tumour metastasis and tumour angiogenesis, gastric ulceration, malaria, bacterial infection, Alzheimer's disease, hyperension and muscular chronic metastorial infection, Alzheimer's disease, hyperesion of muscular chronic metastorial and muscular chronic metast
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with a disorder such as emphysema, asthma, comprises a first protease inhibitor comprising alpha 1-antitrypsin and a second protease inhibitor -
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/note= "Amino acids 1-394 of human AAT"
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100.0%; Score 579; DB 23;
Best Local Similarity 100.0%; Pred. No. 3.5e-64;
Matches 106; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                         such as emphysema, asthma, chronic obstructive pulmonary disease, cystic fibrosis, otitis media, otitis external or HIV infection, or for treating an individual suffering from or at risk for a disease or disorder involving unwanted protease activity. The proteins are useful for treating dermatological diseases such as atopic dermatitis, eczema and psoriasis, in inflammatory responses to viral infection, and for treating herpes infection, corneal or epidermal ulceration, chronic non-healing wounds, sepsis, rheumatoid arthritis, periodontal disease, tumour metastasis and tumour angiogenesis, gastric ulceration, osteoporosis, Paget's disease, glomerulonephritis, scleroderma, malaria, bacterial infection, Alzheimer's disease, hypertension and muscular dystrophy. The present sequence represents the TAPI fusion protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This invention relates to a novel fusion protein comprising a first protease inhibitor comprising an alphal-antitrypsin or its functionally active portion and a second protease inhibitor or its functionally active protein. The fusion proteins of the invention may act as an inhibitor of protease activity. The fusion protein of the invention is useful for inhibiting protease activity associated with a disorder is useful for inhibiting protease activity associated with a disorder
                                                                                                                                                                                                                                                                                                                                                                                  Sequence
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20-NOV-2001; 2001US-331966P.
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                                                                                        61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                  1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGEQALGDAADIRF 60
                                                                                                                                                                                  CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 61
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GenCore version 5.1.3

Copyright (c) 1993 - 2002 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 17, 2002, 15:04:31; Search time 10.6 Seconds (without alignments)
961.344 Million cell updates/sec

Title: US-09-452-817-2
Perfect score: 579
Sequence: 1 CTCVPPHPQTAFCNSDLVIR......GKLQDGLLHITTCSFVAPWN 106

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Ched: 283224 seqs, 96134422 residues
TOdd1 number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

SUMMARIES

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5 11.1		6 11.4				11.		٠		12.	N	2 36.	5 37.	8 37.	7 39.2	40.	40.		40.	40.		79.	87.		87.	8 87.7			Query Match
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_	rapamycin/FKBP12 t	hypothetical prote		hypothetical prote		ğ	apolipoprotein H p	probable Tall-like	protein K07C11.5	metalloproteinase	metalloproteinase	metalloproteinase	metalloproteinase	metalloproteinase	metalloproteinase	tissue inhibitor o	metalloproteinase	metalloproteinase	metalloproteinase	metalloproteinase	metalloproteinase	einase	collagenase inhibi	metalloproteinase	metalloproteinase	metalloproteinase	matrix metalloprot	proteinase	Description

45	44	43	42	41	40	39	38	37	36	35	34	33	32	ω μ	30
61.5	61.5	61.5	62	62	62	62	63	63	63	63	63.5	63.5	64	64	64.5
10.6	10.6	10.6	10.7	10.7	10.7	10.7	10.9	10.9	10.9	10.9	11.0	11.0	11.1	11.1	11.1
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hypothetical prote	2,3-dihydroxybiphe	. precorrin-3 methyl	serine/threonine k	hypothetical prote	hypothetical prote	fixC protein homol	UL37 protein - hum	hypothetical prote	collapsin response	F6A14.9 protein -	transmembrane prot	probable recF prot	inter-alpha-inhibi	H+-transporting tw	beta-galactosidase

ALIGNMENTS

A; Molecule type: protein A; Residues: 24-44, 'L', 46 <str> A; Residues: 24-44, 'L', 46 <str> A; Residues: 34-44, 'L', 46 <str> A; Rote: six disulfide bonds are present R; Rapp, G.; Freudenstein, J.; Klaudiny, J.; Mucha, J.; Wempe, F.; Zimmer, M.; Scheit, K.; DNA Cell Biol. 9, 479-485, 1990 A; Title: Characterization of three abundant mRNAs from human ovarian granulosa cells. A; Reference number: A35826; MUID:91025550; PMID:2171551 A; Recession: A35826 A; Molecule type: mRNA A; Residues: 1-207 <arap> A; Cross-references: GB:M38188 A; Cross-references: GB:M38188 R; Van Ranst, M.; Norga, K.; Massure, S.; Proost, P.; Vandekerckhove, F.; Auwerx, J.; Van [Cytokine 3, 231-239, 1991 Cytokine 3, 231-239, 1991 A; Title: The cytokine-protease connection: identification of a 96-kD THP-1 gelatinase and A; Reference number: A48417; MUID:91355647; PMID:1653055</arap></str></str></str>	A; Molecule type: mkNA A; Residues: 1-207 <gas> R; Carmichael, D.F.; Sommer, A.; Thompson, R.C.; Anderson, D.C.; Smith, C.G.; Welgus, H.G. Proc. Natl. Acad. Sci. U.S.A. 83, 2407-2411, 1986 A; Title: Primary structure and cDNA cloning of human fibroblast collagenase inhibitor. A; Reference number: A23534; MUID:86205964; PMID:3010309 A; Accession: A23534 A; Molecule type: mRNA A; Residues: 1-207 <car> A; Cross-references: GBR102670; NID:g182482; PIDN:AAA52436.1; PID:g182483 A; Cross-references: GBR102670; NID:g182482; PIDN:AAA52436.1; PID:g182483 A; Note: parts of this sequence were confirmed by protein sequencing A; Note: carbohydrate binding sites were determined R; Stricklin, G.P.; Welgus, H.G. J. Biol. Chem. 258, 12252-12258, 1983 A; Title: Human skin fibroblast collagenase inhibitor. A; Reference number: A20595; MUID:84032401; PMID:6313647 A: Accession. A20595; MUID:84032401; PMID:6313647</car></gas>	RESULT 1 ZYHUEP metalloproteinase tissue inhibitor 1 precursor (validated) - human metalloproteinase tissue inhibitor 1 precursor (validated) - human N,Alternate names: erythroid potentiating activity (EPA); fibroblast collagenase inhibitor C;Species: Homo sapiens (man) C;Date: 28-May-1986 #sequence revision 28-May-1986 #text change 08-Dec-2000 C;Accession: A93372; A93363; A23534; A20595; A35826; A48817; S20318; S15872; 152912; S664 R;Docherty, A.J.P.; Lyons, A.; Smith, B.J.; Wright, E.M.; Stephens, P.E.; Harris, T.J.R.; Nature 318, 66-69, 1985 A;Title: Sequence of human tissue inhibitor of metalloproteinases and its identity to ery A;Reference number: A93372 A;Reference number: A93372; MUID:86040463; PMID:3903517 A;Residues: 1-207 <doc> A;Cession: A9347 A;Gasson, J.C.; Golde, D.W.; Kaufman, S.E.; Westbrook, C.A.; Hewick, R.M.; Kaufman, R.J.; Nature 315, 768-771, 1985 A;Title: Molecular characterization and expression of the gene encoding human erythroid-I A;Accession: A93363; MUID:85240567; PMID:3839290 A;Accession: A93363; MUID:85240567; PMID:3839290</doc>

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Page

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matrix metalloproteinase-1 tissue inhibitor - baboon
C;Species: Papio Sp. (baboon)
C;Species: Papio Sp. (baboon)
C;Accession: JC4303
R;Forcugh, R.; Nikkari, S.T.; Hasenstab, D.; Lea, H.; Clowes, A.W.
R;Forcugh, R.; Nikkari, S.T.; Hasenstab, D.; Lea, H.; Clowes, A.W.
Gene 163, 267-271, 1995
A;Title: Cloning and characterization of a cDNA encoding the baboon tissue inhibitor of A;Reference number: JC4303; MUID:96011646; PMID:7590279
A;Reference number: JC4303; MUID:96011646; PMID:7590279
A;Residues: 1-207 <FOR.
A;Residues: 1-207 <FOR.
A;Cross-references: GB:L37295; NID:9561545; PIDN:AAA99943.1; PID:9561546
A;Experimental source: smooth muscle cell
C;Comment: This protein, a member of the tissue inhibitor of matrix metalloproteinase for C;Genetics:
A;Gene: Limp-1
C;Superfamily: metalloproteinase inhibitor
C;Superfamily: metalloproteinase inhibitor
C;Keywords: extracellular matrix; glycoprotein; metalloproteinase inhibitor
C;Keywords: extracellular matrix; Govalent) #status predicted
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Metalloproteinase inhibitor 1 precursor - bovine
Maternate names: cartilage-derived necovascularization inhibitor; TIMP-1; tissue inhib
C;Species: Bos primigenius taurus (cattle)
C;Accession: A35685; B34468; B29712; A4813; Lappanier, R.; Scheit, K.H.
B;Chem. Biophys Res. Commun. 171, 250-256, 1990
A;Title: mRNA of bovine tissue inhibitor of metalloproteinase: sequence and expression
A;Title: mRNA
A;Resference number: A35685; MUID:90365711; PMID:2393392
A;Molecule type: mRNA
A;Residues: L207 c*RRA
A;Residues: L204 c*RRA
A;Accession: B3468; MUID:90365711; PMID:2539392
A;Title: Purification and characterization of two related but distinct metalloproteinas
A;Accession: B34468; MUID:9008914; PMID:2551903
A;Title: Durification and characterization of two related but distinct metalloproteinas
A;Reference number: A3468; MUID:9008914; PMID:2551903
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R;Moses, M.A.; Sudhalter, J.; Langer, R.
Science 248, 1408-1410, 1990
A;Title: Identification of an inhibitor of neovascularization from cartilage.
A;Reference number: A34833; MUID:90288433; PMID:1694043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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5.3e-58;
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100.0%; Pred. No. 5.3
ive 0; Mismatches
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Matches 106; Conservative
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A; Residues: 'X'.25,'X',27-35,'X',37-38 < 0ST>
A; Residues: 'X'.25,'X',27-35,'X',37-38 < 0ST>
A; ERBS Lett. 284, 73-78, 1991
R; Opdenakker, G; Masure, S.; Proost, P.; Billiau, A.; van Damme, J.
FEBS Lett. 284, 73-78, 1991
A; Title: Natural human monocyte gelatinase and its inhibitor.
A; Reference number: S15872; MUID:91285112; PMID:1647974
A; Accession: S15872
A; MOID:1012; PMID:1647974
A; Molecule type: protein
A; Reference number: S15872
A; Molecule type: protein
A; Reference: Peripheral blood monocytes
R; Williamson, R.A.; Marston, F.A.O.; Angal, S.; Koklitis, P.; Panico, M.; Morris, H.R.; B; MID:1616 bond assignment in human tissue inhibitor of metalloproteinases (TIM A; Reference number: A38978; MUID:90303199; PMID:2163605
A; Contents: annotation; disulfide bonds
R; Opbroek, A.; Kenney, M.C.; Brown, D.
Curr. Eye Res. 12, 877-883, 1893
                                            A; Molecule type: protein
A; Residues: 'X', 27-35, 'X', 37-52 < VAN>
A; Residues: 'X', 25, 'X', 27-35, 'X', 37-52 < VAN>
A; Experimental source: monocytic cell line THP-1
A; Note: sequence modified after extraction from NCBI backbone
A; Note: sequence incorrectly identified as 96K gelatinase
R; Oschues, A.; Knaeuper, V.; Oberhoff, R.; Reinke, H.; Tschesche, H.
A; Title: 150-1610n and characterization of tissue inhibitors of metalloproteinases (TIMF A; Reference number: S20318; MUID:92111776; PMID:1730286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A.Experimental source: polymorphonuclear leukocytes
C.Comment: This protein, found in a variety of body fluids, complexes with metalloprotei
s-specific, stimulating the growth and differentiation of only human and murine erythrol
C.Comment: The remarkable heat stability of this protein may be due to disulfide bond fo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Reywords: erythropoiesis; glycoprotein; metalloproteinase inhibitor; mitogen 1-23/Domain: signal sequence #status predicted <SIG>
2-24-207/Product: metalloproteinase inhibitor 1 #status experimental <MAT>
2-24-207/Product: metalloproteinase inhibitor 1 #status experimental <MAT>
3-24-30, 26-122,36-147,150-197,155-160,168-189/Disulfide bonds: #status experimental <S2,101/Binding site: carbohydrate (ASM) (covalent) #status experimental
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 579; DB 1;
100.0%; Pred. No. 5.3e-58;
ive 0; Mismatches 0;
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C;Comment: The remarkable heat stability of th
C;Genetics
A;Gene: GDB:TIMP1, CLG1, TIMP
A;Cross-references: GDB:119615, OMIM:305370
A;Map position: Xp11.3-Xp11.23
C;Superfamily: metalloproteinse inhibitor
C;Keywords: erythropolesis; glycoprotein, meta
F;1-23/Domain: signal sequence #status predict;
F;24-207/Product: metalloproteinse inhibitor
F;24-93, 26-122, 36-147, 150-197, 155-160, 168-189/
F;53,101/Binding site: carbohydrate (Asn) (cov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.0
Matches 106; Conservative
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A, Molecule type: protein

RESULT JC4303

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A; Description: regulation of extracellular matrix remodeling by inhibition of matrix met possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiating A; Note: transcription induced by cytokines, tumor promoters, and anti-inflammatory agent A; Note: TIMP-1 and TIMP-3 have distinct but overlapping tissue-specific expression patte A; Note: TIMP-1 and TIMP-3 have distinct but overlapping tissue-specific expression patte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;HOrowitz, S.; Dafni, N.; Shapiro, D.L.; Holm, B.A.; Notter, R.H.; Quible, J. Biol. Chem. 264, 7092-7095, 1989
A;Title: Hyperoxic exposure alters gene expression in the lung. Induction of A_Beference number: A33350; MUID:89214135; PMID:2708356
cession: A33350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      metalloproteinase inhibitor 1 precursor - rabbit
N;Alternate names: TIMP-1; tissue inhibitor of metalloproteinases 1
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 30-Jun-1992 #sequence_revision 12-Apr-1996 #text_change 18-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Description: regulation of extracellular matrix remodeling by inhibition of matrix met possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiating A;Note: transcription induced by cytokines, tumor promoters, and anti-inflammatory agent A;Note: TIMP-1 and TIMP-3 have distinct but overlapping tissue-specific expression patte C;Superfamily: metalloproteinase inhibitor C;Keywords: erythropoiesis; extracellular matrix; glycoprotein; metalloproteinase inhibit F 23/Domain: signal sequence #status predicted <SIG-
207/Product: metalloproteinase inhibitor 1 #status experimental <MAT>
F -93,26-122,36-147,150-197,155-160,168-189/Disulfide bonds: #status predicted F;53,101/Binding site: carbohydrate (Asn) (covalent) #status predicted
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                                                                                                                                                                                                                                                                            C;Keywords: erythropolesis; extracellular matrix; glycoprotein; metalloproteinase F;1-23/Domain: signal sequence #status predicted <SIG> F;24-206/Product: metalloproteinase inhibitor 1 #status predicted <MAT> F;24-93,26-122,36-147,150-196,155-160,168-188/Disulfide bonds: #status predicted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Decule type: mRNA; Residues: 1-206 <HOR>; Residues: 1-206 <HOR>; Residues: 1-206 <HOR>; Residues: 1-206 HOR>; Residues: 1-206 HOR>; Residues: 1-206 HOR>; Residues: 1-206 HOR>; Residues: GB: J04712; NID: g165742; PIDN: AAA31478.1; PID: g165743; Experimental source: hyperoxi-exposed lung of New Zealand White rabbits; Comment: Expression of this protein in the lung is induced 6-fold by hyperoxia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Experimental source: cartilage; Satoh, T.; Kobayashi, K.; Yamasiol. Reprod. 50, 835-844, 1994
                                                                                                                                                                                                                                                                                                                                                                                                              Superfamily: metalloproteinase inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Accession: A33350; A30864
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      24
                                                                                                                                                           Local
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                                                   CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
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CTCVPPHPQTAFCNSDLVIRAKFVGAPEVNHTTLYQRYEIKTTKMFKGFDALGHATDIRF
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92; Conserv
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92; Conser
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                                                                                                                              Score 507; DB 1; ]
Pred. No. 7.6e-50;
5; Mismatches 9;
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                                                                                                                                                                                     Length 206
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A;Residues: 1-207 <TAN>
A;Cross-references: GB:S96211; NID:g247729; PIDN:AAB21865.1; C;Superfamily: metalloproteinase inhibitor
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A;Title: Differential screening of ovarian cDNA libraries A;Reference number: I47061; MUID:92201478; PMID:1312961
A;Accession: I47061
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I47061
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                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             collagenase inhibitor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 04-Sep-1997 #sequence_revision 04-Sep-1997 #text_change 16-Jul-1999
C;Accession: I47061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: GB:S67450; NID:g456989; PIDN:AAB29472.1; C;Superfamily: metalloproteinase inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Smith, G.W.; Goetz, T.L.; Anthony, R.V.; Smith, M.F. Endocrinology 134, 344-352, 1994
A;Title: Molecular cloning of an ovine ovarian tissue inhibitor
                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
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A;Status: preliminary; translated from GB/EMBL/DDBJ
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RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Reference number: 146964; MUID: 94102210; PMID: 8275949
                                                                                                                                                                                                                                              Query Match
Best Local
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                                                                                             VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
                                                                                                                                                                 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
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                                                                                                                                          CTCVPPHPQTAFCSSDLVIRAKFVGAPEFNQTASYQRYEIKMTKMFKGFNALGDAPDIRF
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85.8%;
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Pred. No. 1.7e-49;
7; Mismatches 8
                                                                                                                                                                                                                        Score 504; DB 2;
Pred. No. 1.7e-49;
6; Mismatches 9
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metalloproteinase inhibitor 1 precursor - mouse N;Alternate names: erythroid potentiating activity C;Species: Mus musculus (house mouse) C;Date: 05-Oct-1988 #sequence revision 12-Apr-1996 C;Accession: A26917; A26106; A26633; A05276

activity (EPA); fibroblast collagenase

#text

change

18-Jun-1999

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A26106

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Tue Dec 17 15:12:48

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A;Molecule type: mRNA
A;Residues: 1-220 <BGO>
A;Cross-treferences: GB:M32304; NID:g187522; PIDN:AAA59581.1; PID:g307195
A;Experimental source: fetal aorta cDNA library
R;Stetler-Stevenson, W.G.; Krutzsch, H.C.; Liotta, L.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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A37128
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                                                                                                                                                                                                          A; Description: regulation of extracellular matrix remodeling by inhibition of matrix med possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiating A; Note: transcription induced by cytokines, tumor promoters, and anti-inflammatory agent A; Note: TIMP-1 and TIMP-3 have distinct but overlapping tissue-specific expression patte C; Superfamily: metalloproteinase inhibitor
C; Keywords: erythropoiesis; extracellular matrix; glycoprotein; metalloproteinase inhibit F;1-24/Domain: signal sequence #status predicted <SIG-F;25-205/Product: metalloproteinase inhibitor #status predicted <AMT>
F;25-94,27-123,37-148,151-197,156-161,169-189/Disulfide bonds: #status predicted
F;54,102/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Residues: 1-205 < EDW>
A; Residues: 1-205 < EDW>
A; Cross-references: GB.X04684; NID:g49702; PIDN:CAA28387.1; PID:g49704
A; Experimental source: embryonic fibroblast cDNA library
R; Gewert, D.R.; Coulombe, B.; Castelino, M.; Skup, D.; Williams, B.R.G.
BMBO J. 6, 651-657, 1987
A; Title: Characterization and expression of a murine gene homologous to human EPA/TIMP: A; Reference number: A26633; MUID:87218524; PMID:3034603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-51, R',53-66, M',67-116, KF',119-120, N',122-138, V',140-142, KN',144-193,
A; Cross-steferences: GB:MZ8312; NID:g193040; PIDN:AAB42179.1; PID:g193042
A; Cross-steferences: GB:MZ8312; NID:g193040; PIDN:AAB42179.1; PID:g193042
R; Skups D.; Windass, J.D.; Sor, F.; George, H.; Williams, B.R.G.; Fukuhara, H.; De Maeye
Nucleic Acids Res. 10, 3069-3084, 1982 of H.; Williams, B.R.G.; Fukuhara, H.; De Maeye
A; Title: Molecular cloning of partial cDNA copies of two distinct mouse IFN-beta mRNAs.
A; Reference number: A93424; MUID:82247191; PMID:6179042
A; Molecule type: mRNA
R,Johnson, M.D.; Housey, G.M.; Kirschmeier, P.T.; Weinstein, I.B.
Mol. Cell. Biol. 7, 2821-2829, 1987
A,Title: Molecular cloning of gene sequences regulated by tumor promoters and mitogens A;Reference number: A26917; MUID:88038821; PMID:3670294
A;Accession: A26917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Molecule type: mRNA
A;Residues: 168-193,'L',195-205 <SKU>
A;Cross-references: GB:V00755; GB:J00425; NID:G51554; PIDN:CAA24132.1; PID:g817965
A;Note: authors thought this clone represented a form of interferon beta
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
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// Pred. No. 2.7e-44;
17; Mismatches 10; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                           Reference number: A26106, MUID:87066763, PMID:3024122; Accession: A26106
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C;Species: Rattus norvegicus (Norway rat)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999
C;Accession: JC2557; B39120; S20326
R;Okada, A.; Garnier, J.M.; Vicaire, S.; Basset, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         metalloproteinase inhibitor 1 precursor - rat
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A,Map position: X
A,Introns: 41/3; 68/3; 110/3; 152/3
C,Function: regulation of extrace
A,Description: regulation of extrace
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Best Local Similarity 74.3%
Matches 78; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Molecule type: mRNA
                                                                                                                                                                                        Molecule type: mRNA
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A;Title: Cloning of the cDNA encoding rat tissue inhibitor of metalloproteinase 1 (TIM: A;Reference number: JC2557; MUID:95011636; PMID:7926820
A;Accession: JC2557
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A; Accession: 0.202,
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Molecule type: mRNA
A; Cross-references: EMEL: 006179; NID: 9468057; PIDN: AAA85780.1; PID: 9468058
B; Olson Jr., J.A.; Shiverick, K.T.; Ogilvie, S.; Buhi, W.C.; Raizada, M.K.
Proc. Natl. Acad Sci. US. As 88, 1928-1932, 1991
A; Reference number: A39120; MUID: 91156719; PMID: 2000398
A; Reference number: A39120
A; Reference number: A39120; MUID: 91156719; PMID: 2000398
A; Residues: 24.36, B'.38, B', 40-42, X', 44 < OLS>
A; Residues: 24.36, B'.38, B', 40-42, X', 44 < OLS>
A; Residues: 24.36, B'.38, B', 40-410, 1992
A; Title: Purification and sequence analysis of two rat tissue inhibitors of mer
A; Molecule type: protein
A; Reference number: S20325; MUID: 92117648; PMID: 1309971
A; Residues: 24.45 < ROS>
C; Function:
A; Residues: 24.45 < ROS>
C; Punction: A; Description: requiation of extracellular matrix remodeling by inhibition of matrix money.
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C;Keywords: erythropoiesis; extracellular matrix; glycoprotein; metalloproteinase inhibitor
F;1-23/Domain: signal sequence #status predicted (SIG)
F;24-217/Froduct: metalloproteinase inhibitor 1 #status experimental <MAT>
F;101,130/Binding site: carbohydrate (Asn) (covalent) #status predicted
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N;Alternate names: chondrocyte-derived angiogenesis inhibitor; TIMP-2; tissue inhibitor
C;Species: Homo sapiens (man)
C;Species: Homo sapiens
C;Species: Homo
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73.6%; Pred. No. 6.6e-43;
iive 14; Mismatches 14;
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A;Molecule type: protein
A;Residues: 'X',28,'X',30-38,'X',40-41 <05T>
A;Residues: 'X',28,'X',30-38,'X',40-41 <05T>
A;Experimental source: rheumatoid synovial fluid
R;Ward, R.V.; Hembry, R.M.; Reynolds, J.J.; Murphy, G.
Blochem. J. 278, 179-187, 1991
A;Title: The purification of tissue inhibitor of metalloproteinases-2
A;Reference number: S17165; MUID:91354200; PMID:1909113
A;Accession: S17165
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A;Residues: 27-77, 'K', 79-81,'I', 83-100,'E',102-117;119-121,'R',123-149,'Q',151-174,'T',
A;Residues: 27-77, 'K', 79-81,'I', 83-100,'E',102-117;119-121,'R',123-149,'Q',151-174,'T',
A;Experimental source: serum-free culture medium of A2058 cells
R;Goldberg, G.I.; Marmer, B.L.; Grant, G.A.; Eisen, A.Z.; Wilhelm, S.; He, C.
Proc. Natl. Acad. Sci. U.S.A. 86, 8207-8211, 1989
A;Title: Human 72-kilodalton type IV collagenase forms a complex with a tissue inhibit.
A;Reference number: A34415; MUID:90046765; PMID:2554304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: protein
A; Residues: 27, X', 29', X', 31-38 <WAR>
R; Obba, Y.; Goto, Y.; Kimura, Y.; Suzuki,
Biochim. Biophys. Acta 1245, 1-8, 1995
A; Title: Purification of an angiogenesis
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A; Accession: S58794
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A; Residues: 30-51; 124-141; 159-173 < GOL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: EMBL:X54533; NID:g37180; PIDN:CAA38400.1; PID:g37181;Cothues, A.; Knaeuper, V.; Oberhoff, R.; Reinke, H.; Tschesche, H. TSchesche, H. 296, 16-20, 1992; Title: Isolation and characterization of tissue inhibitors of metallop:,Reference number: S20318; MUID:92111776; PMID:1730286
                                                                                                                                                                                                                                                                                                                                                          ;1-26/Domain: signal sequence #status predicted <SIG>
;27-220/Product: metalloproteinase inhibitor 2 #status experimental <MAT>
;27-98,29-127,39-152,154-201,159-164,172-193/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;Molecule type: protein ;Residues: 27-37 <OHB>
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                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                 Query Match
Best Local
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Title: Tissue
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sidues: 30-95,'V',97-214 <MAL>
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      82
                                                      54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWN 106
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PEKDIEFIYTAPSSAVCG-VSLDVGGKKEYLIAGKAEGDGKMHITLCDFIVPWD
                                                                                                                     CSCSPVHPQQAFCNADVVIRAKAVSEKEVDSGNDIYGNPIKRIQYEIKQIKWFK-----G
                                                                                                                                                                                 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ-TTLYQ-----RYEIKMTKMYKGFQALG 53
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                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                       40.4%;
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Pred. No. 7.2e-19;
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134
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A;Molecule type: protein
A;Molecule type: protein
A;Residues: 27-46,'HLX',50-52,'LX',55-56,'DXX',60,'X',62 <KI2>
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A;Title: Differential regulation of TIMP-1 and TIMP-2 mRNA expression in normal and A;Reference number: JC1234; MUID:92347695; PMID:1639268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gene 114, 291-292, 1992
A;Title: Cloning and sequencing of the cDNA encoding a mouse tissue inhibitor
A;Reference number: JH0683; MUID:92290292; PMID:1601312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N;Alternate names: TIMP-2; tissue inhibitor of metalloproteinases 2 C;Species: Mus musculus (house mouse) C;Species: Mus musculus (house mouse) C;Date: 10-Sep-1999 #sequence revision 10-Sep-1999 #text change 10-Sep-1999 C;Accession: JH068; JC1234; S18428; S15987; S26189 C;Accession: JH068; JC1234; S18428; S15987; S26189 R;Shimizu, S; Malik, K; Sejima, H.; Kishi, J.; Hayakawa, T.; Koiwai, O. Gene 114, 291-292, 1992
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N;Alternate names: TIMP-2; tissue inhibitor of metalloproteinases 2
C;Species: Cricetulus longicaudatus (long-tailed hamster)
C;Date: 06-Jan-1995 #sequence_revision 12-Apr-1996 #text_change 18-Jun-1999
C;Accession: S38624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: mRNA
A;Residues: 1-11,'H',13-20,'L',22-194,'E',196-220 <LEC>
A;Cross-references: GB:M93954; NID:g202053; PIDN:AAA40446.1;
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                                                                                                                                           A; Title: Purification and characterization A; Reference number: S15987; MUID: 91226375;
                                                                                                                                                                                                         A;Molecule type: protein
A;Residues: 27-46, H',48,50-53,'VD',56,'DY' <KIS>
R;Kishi, J.I.; Ogawa, K.; Yamamoto, S.; Hayakawa,
Matrix 11, 10-16, 1991
                                                                                                                                                                                                                                                                                                                                                                                               Matrix 11, 373, 1991 A; Title: Correction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:X62622; NID:g54801; PIDN:CAA44491.1; PID:g54802
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A; Residues: 1-220 < SHI>
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C;Keywords: erythropoiesis; extracellular matrix; metalloproteinase inhibitor;
F;3-196/Product: metalloproteinase inhibitor 2 #status predicted <MAT>
F;3-74,5-103,15-128,130-177,135-140,148-169/Disulfide bonds: #status predicted
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A; Residues: 1-196 <SUZ>
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A; Accession: S38624
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                                                                                                                    A; Accession:
                                                                                                                                                                                                                                                                                                                                        A; Accession: S18428
                                                                                                                                                                                                                                                                                                                                                                  A; Reference number: S18428; MUID: 92244125;
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44.7%;
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Pred. No. 8.2e-19;
L5; Mismatches 34
                                                                                                                                                  of a new tissue inhibitor PMID:1851244
                                                                                                                                                                                                                                                                                                                                                                     PMID:1667327
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D. Ha-re

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Lissue inhibitor of metalloproteinase type 2 - rat
C;Species: Rattus sp. (rat)
C;Accession: 153415
R;Santoro, M.; Battaglia, C.; Zhang, L.; Carlomagno, F.; Martelli, M.L.; Salvatore, D.;
Exp. Cell Res. 213, 398-403, 1994
A;Title: Cloning of the rat tissue inhibitor of metalloproteinases type 2 (TIMP-2) gene
A;Reference number: 153415, MUD:94326839; PMID:8050496
A;Accession: 153415
A;Genes: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-220 cRES>
A;Cross-references: GB:S72594; NID:g619232; PIDN:AAC60687.1; PID:g619233
C;Genetics: TIMP-2
C;Superfamily: metalloproteinase inhibitor
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C.Species: Bos primigenius teurus (catle)
C.Date: 16-Nov-1990 Hesquence revision 12-Apr-1996 Hext_change 18-Jun-1999
C.Accession: Na15,864 A31468; A32322; S2815, P. Langley, K.E.
P. Proc. Natl. Acad. Sci. U.S.A. 87, 2800-2804, 1990
A.Title: CDNA cloning and expression of a metalloproteinase inhibitor related to tissue A; Recterence number: A3596; MUID:90207285; PMID:2157214
A.Accession: A35996; MUID:90207285; PMID:2157214
A.Accession: A35996
A.Molecule type: mRNA
A.Recterence number: A34468 MUID:90207285; PMID:2551903
A.Title: Purification and characterization of two related but distinct metalloproteinate A; Reference number: A34468 MUID:9008914; PMID:2551903
A.Title: Purification and characterization of two related but distinct metalloproteinate A; Reference number: A34468 MUID:9008914; PMID:2551903
A.Accession: A34468 MUID:9008914; PMID:2551903
A.Accession: A34468 MUID:9008914; PMID:2551903
A.Accession: A34468 MUID:9008914; PMID:2551903
A.Accession: A34468 MUID:9008914; PMID:3551903
A.Accession: A34468 MUID:9008914; PMID:3551903
A.Accession: A34468 MUID:9008914; PMID:3551903
A.Accession: A35322; MUID:96140235; PMID:3008321
A.Accession: A25322; MUID:96140235; PMID:3008321
A.Accession: A25322; MUID:9640235; PMID:3008321
A.Accession: A25322; MUID:9640235; PMID:3008321
A.Accession: A25322; MUID:9008914; PMID:Accession: A25322; MUID:9008914; PMID:Accession: A25322; MUID:9008914; PMID:8424773
A.Accession: A25322; MUID:9008914; PMID:9008914; PMID:9008914; AA:Accession: A25322; MUID:9008914; AA:Accession: A25925; MUID:9008914; AA:Accession: A25925
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PDKDIEFIYTAPSSAVCG-VSLDVGGKKEYLIAGKAEGDGKMHITLCDFIVPWD
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40.2%; Score 233; DB 2;
Best Local Similarity 44.7%; Pred. No. 9.3e-19;
Matches 51; Conservative 15; Mismatches 34;
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A; Residues: 1-220 «COO»
A; Residues: 1-220 «COO»
A; Residues: 1-220 «COO»
A; Croswit, W.T.; McCourt, D.W.; Partridge, N.C.; Jeffrey, J.J.
Arch. Biochem. Biophys. 292, 402-410, 1992
A; Title: Purification and sequence analysis of two rat tissue inhibitors of metalloprote A; Reference number: $20325; MUID:92117648; PMID:1309971
A; Reference number: $20325 MUID:92117648; PMID:1309971
A; Reference number: $20325
A; Molecule type: protein
A; Reference number: $6035
A; Molecule type: protein
A; Reference number: $60160
A; Residues: preliminary
A; Molecule type: MRNA
A; Residues: 1-6, %, 8-20, vv, ,22-152, 'E', 154-220 «GIB»
A; Cross: references: EMBL:131884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Date: 10.-Sep-1999 #sequence revision 10-Sep-1999 #text_change 10-Sep-1999 C;Accession : S45683; S20325; S60160 R;Cook, T.F.; Burke, J.S.; Bergman, K.D.; Quinn, C.O.; Jeffrey, J.J.; Partridge, N.C. Arch. Biochem. Biophys. 311, 313-320, 1994 A;Title: Cloning and regulation of rat tissue inhibitor of metalloproteinases-2 in osted A;Reference number: S45683; MUID:94263207; PMID:8203893
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                             A, Description: regulation of extracellular matrix remodeling by inhibition of matrix met possibly controlling their activation; TIMP-1 and TIMP-2 possess erythroid potentiating C, Superfamily: metalloproteinase inhibitor
                                                                                                                                                         C;Keywords: erythropolesis; extracellular matrix; metalloproteinase inhibitor; mitogen F;1-26/Domain: signal sequence #status predicted <SIG> F;27-220/Product: metalloproteinase inhibitor 2 #status experimental <MAT> F;27-98,29-127,39-152,154-201,159-164,172-193/Disulfide bonds: #status predicted
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N;Alternate names: TIMP-2; tissue inhibitor of metalloproteinases 2
C;Species: Rattus norvegicus (Norway rat)
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44.7%; Pred. No. 9.3e-19;
iive 15; Mismatches 34; Indels
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40.2%; Score 233; DB 1;
Best Local Similarity 44.7%; Pred. No. 9.3e-19;
Matches 51; Conservative 15; Mismatches 34;
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Best Local Similarity
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C,Function:
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C; Function:

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A;Description: regulation of extracellular matrix remodeling by inhibition of matrix met A;Note: transcription induced by cytokines, tumor promoters, and anti-inflammatory agent A;Note: TIMP-1 and TIMP-3 have distinct but overlapping tissue-specific expression patte C;Superfamily: metalloproteinase inhibitor
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A;Title: The 21-KDa protein is a transformation-sensitive metalloproteinase inhibitor of
A;Reference number: A39043; MUID:91093162; PMID:1845973
A;Accession: A39043
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Pavloff, N.; Staskus, P.W.; Kishnani, N.S.; Hawkes, S.P. J. Biol. Chem. 267, 17321-17326, 1992
A;Title: A new inhibitor of metalloproteinases from chicken: A;Reference number: A43429; MUID:92381050; PMID:1512267
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A; Residues: 1-212 < PAV>
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,Residues: 26-51,'I',53 <STA>
Experimental source: cultured embryonic fibroblasts infected with Rous sarcoma virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Reywords: extracellular matrix; glycoprotein; metalloproteinase inhibitor
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Local Similarity 43.9%;
   82
                                                              60 FVYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contains disulfide bonds; not glycosylated; has inhibitory activity
                                                                                                                                                                     CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTL-YQRYBIKMTKMYKGFQALGDAADIR 59
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YIYTEASESLCGV--KLEVNKYQYLITGRVYEGKVYTGLCNWYEKWD 126
                                                                                                                               CTCVPIHPQDAFCNSDIVIRAKVVGKKLMKDGPFGTMRYTVKQMKMYRGFQIM---PHVQ 81
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                                                                                                                                                                                                                                                            37.7%; Score 218; DB 1; Length 212; 40.2%; Pred. No. 4.5e-17; tive 21; Mismatches 37; Indels
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Pred. No. 4.5e-18;
L6; Mismatches 34; Indels
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Search completed: December 17, 2002, 15:07:10

Job time : 11.6 secs

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GenCore version 5.1.3

Copyright (c) 1993 - 2002 Compugen Ltd.

OM protein - protein search, using sw model

Run on: December 17, 2002, 15:04:26; Search time 5.84828 Seconds (without alignments)

Title: US-09-452-817-2

Perfect score: 579
Sequence: 1 CTCVPPHPQTAFCNSDLVIR.......GKLQDGLLHITTCSFVAPWN 106

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Sched: 112892 seqs, 41476328 residues

Todal number of hits satisfying chosen parameters: 112892

Minimum DB seq length: 0

Maximum DB seq length: 2000000000
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Database :

SwissProt_40:*

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SUMMARIES

No.	Score	nery	Length	BIG	ID	Š
1	579	100.0	207	- :	TIM1_HUMAN	P01033 homo sapien
2	579	100.0	207	_	1	1 papio cyr
w	569	•	207	1		9
.4	508	87.7	207	1		bos taurus
տ	507	87.6	206	1	1 1	oryc
თ	504	•	207	1	. 1	
7	500		207	1		4 sus scrof
œ	477	82.4	207	_		2 eguu
9	458	•	205	_	TIM1_MOUSE	N
10	455	•	207	1	TIM1_CANFA	σ
11	446	•	217	μ.	TIM1_RAT	0
12	235	40.6	214	44	TIM3_SCYTO	
13	234	40.4	220	٠	TIM2_CAVPO	თ
14	234	٠	220	۳	TIM2_HUMAN	σ
15	233	40.2	196	, ш	TIM2_CRILO	Q60453 cricetulus
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, ₁) (L	· .	0 0	۰ -	À	rattus
, p.	229	٠.	220	۰ ـ	TIMZ_CANFA	-
19	822	39.4	194	, "	TIMZ_RABIT	7
20	227	9	220	_		bos tar
21	219	7.	220	_	TIM2_CHICK	6 gallus
22	218	37.7	212	_	TIM3_CHICK	2 gallus
23	215	37.1	211	H	TIM3_HORSE	9 equu
24	215	7.	211	_	TIM3 HUMAN	ŲΊ
25	213	٥.	214	_	TIM3_XENLA	6 xenoj
26	\vdash	36.6	211	μ	TIM3_MOUSE	6 mus musc
27	~	ς.	211	ш	TIM3_RAT .	P48032 rattus norv
28	210.5		224	ب	TIM4_MOUSE	Q9jhb3 mus musculu
29	210	ο,	211	سا		-
30	208.5	9	224	ب	TIM4_RAT	5 ratt
31	201.5	34.8	224	ب	TIM4_HUMAN	hon
32	155	σ,	151	ب	TIM3_RABIT	
33	140.5	24.3	107	۲	TIM4_BOVIN	

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	ALIGNMENTS					
O83049 treponema p	RECF_TREPA	_	352	11.0	63.5	45
Q00821 odontella s	ATPD_ODOSI	ш	187	11.1	64	44
P70753 actinobacil	BGAL_ACTPL	_	1005	11.1	64.5	43
	FRAP_RAT	μ.	2549	11.2	65	42
Q9jln9 mus musculu	FRAP MOUSE	_	2549	11.2	65	41
Q16555 homo sapien	DPY2_HUMAN	_	572	11.4	66	40
002675 bos taurus	DPY2_BOVIN	_	572	11.4	66	39
Q9xvs8 caenorhabdi	NXF2_CAEEL	μ.	421	11.7	67.5	38
Q01339 mus musculu	APOH_MOUSE	Н	345	11.9	69	37
Q9vh14 drosophila	TIMP_DROME	ب	210	17.3	100	36
077717 equus cabal	TIM2_HORSE	щ	91	23.7	137.5	35
097591 oryctolagus	TIM4_RABIT	Н	170	24.3	140.5	34

RTT RAA RR		RRA	RESULT TIM1—H TIM1—H AC P DT 2 DT 2 DT 1 DT 1 DE M DE
SEQUENCE FROM N.A. TISSUE-Ovary; MEDLINE=9102550; PubMed=2171551; MEDLINE=9102550; PubMed=171551; Rapp G., Freudenstein J., Klaudiny J., Mucha J., Wempe F., Zimmer M., Scheit K.H.; "Characterization of three abundant mRNAs from human ovarian granulosa cells."; DNA Cell Biol. 9:479-485(1990).	FROM N. 86205964 el D.F., .G., Structu r.", structu r.", tl. Acad tl. Acad FROM N. M., Hon ar cloni ar of met ology 5:	SEQUENCE FROM N.A. MEDLINE=86040463; PubMed=3903517; MEDCINETY A.J.P., Lyons A., Smith B.J., Wright E.M., Stephens P.E., Harris T.J.R., Murphy G., Reynolds J.J.; "Sequence of human tissue inhibitor of metalloproteinases and its identity to erythroid-potentiating activity."; Nature 318:66-69(1985). [2] SEQUENCE FROM N.A. MEDLINE=85240567; PubMed=1839290; Gasson J.C., Golde D.W., Kaufman S.E., Westbrook C.A., Hewick R.M., Kaufman R.J., Wong G.G., Temple P.A., Leary A.C., Brown E.L., "Molecular characterization and expression of the gene encoding human erythroid-potentiating activity."; Nature 315:768-771(1985).	LT 1 HUMAN STANDARD; PRT; 207 AA. P01033; Q14252; Q9UCU1;. P01033; Q14252; Q9UCU1;. 21-JUL-1986 (Rel. 01, Created) 21-JUL-1986 (Rel. 01, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Metalloproteinase inhibitor 1 precursor (TIMP-1) (Erythroid potentiating activity) (EPA) (Tissue inhibitor of metalloproteinases) (Fibroblast collagenase inhibitor) (Collagenase inhibitor). TIMP1 OR TIMP OR CLGI. Homo sapiens (Human). Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo. NCBI_TaxID=9606;

us-09-452-817-2.rsp

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GROWTH AND
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J. Mol. Biol. 295:257-268(2000).
J. Mol. Biol. 295:257-X68(2000).
AND IRREVERSIBLY INACTINATES THEM. ALSO MEDIATES EXYTHROPOIESIS IN VITRO; BUT, UNLIKE IL-3, IT IS SPECIES-SPECIFIC, STIMULATING THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS) OF COMPLEX WITH MMP-3. MEDLINE=9743330; PubMed=9288970; Gomis-Ruth F.X., Maskos K., Betz M., Bergner A., Huber R., Suzuki K., Yoshida N., Nagase H., Brew K., Bourenkov G.P., Bartunik H., Bode W.; "Mechanism of Inhibition of the human matrix metalloproteinase stromelysin-1 by TIMP-1.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                             metalloproteinases (TIMP-1 and TIMP-2) from human rheumatoid synovial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Van Ranst M., Norga K., Masure S., Proost P., Vandekerckhove F., Auwerx J., Van Damme J., Opdenakker G.; The cytokine-protease connection: identification of a 96-kD THP-1 gelatinase and regulation by interleukin-1 and cytokine inducers."; [Cytokine 3:231-239(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=93041700; PubMed=1420137; Occkett M.I., Occkett M.I., Willenbrock F., Williamson R.A., Cockett M.I., Freedman R.B., Reynolds J.J., Docherry A.J.P., Murphy G.; "Site-directed mutations that alter the inhibitory activity of the tissue inhibitor of metalloproteinasss-1: importance of the N-terminal region between cysteine 3 and cysteine 13."; Biochemistry 31:10146-10152(1992).
                                    Opbroek A., Kenney M.C., Brown D., "Characterization of a human corneal metalloproteinase inhibitor
                                                                                                                                                                                                                                                                                               MEDLINE=90303199; PubMed=2163605; Williamson R.A., Martson F.A.O., Angal S., Koklitis P., Panico I Mortis H.R., Carne A.F., Smith B.J., Harris T.J.R., Freedman R. "Disulphide bond assignment in human tissue inhibitor of metalloproteinases (TTMP)."; Biochem. J. 268:267-274(1990).
                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Synovial fluid;
MEDL/NE=92111776; PubMed=1730286;
Osthues A., Knaueper V., Oberhoff R., Reinke H., Tschesche H.;
Isolation and characterization of tissue inhibitors of
                                                                                                                                 Strausberg R., Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                Hardcastle A.J.;
Submitted (SEP-1995) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                       Matsuda T., Kohno K., Kuwano M.;
Submitted (JUL-1992) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                   DISULFIDE BONDS, AND PARTIAL SEQUENCE.
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 [6]
SEQUENCE FROM N.A.
MEDLINE=94123576; Pubmed=7507419;
                                                                              Curr. Eye Res. 12:877-883(1993).
                                                                                                                                                                           SEQUENCE OF 42-207 FROM N.A.
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                PROGENITORS. KNOWN TO ACT ON MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-10, MMP-11, MMP-12, MMP-13 AND MMP-16. DOES NOT ACT
ONLY HUMAN AND MURINE ERYTHROID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00288; TIMP; 1.
Glycoprotein; Metalloprotease inhibitor; Erythrocyte maturation;
                                                                            SUBCELLULAR LOCATION: Secreted. PTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF
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100.0%; Pred. No. 2.5e-59;
tive 0; Mismatches 0;
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                                                                                                                 DISULFIDE BONDS.
SIMILARITY: BELONGS TO THE TIMP FAMILY.
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BC000866; AAH00866.1; -.
D11139; BAAD1913.1; -.
L47361; AAA75558.1; -.
DIFFERENTIATION
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Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
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Genew, HGNC:11820; TIMP1.
MIM; 305370; -.
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Matches 106; Conservative
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PIR, A23534, A23534.
PIR, A35826, A35826.
PIR, S20318, S20318.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Forough R., Nikkari S.T., Hasenstab D., Lea H., Clowes A.W.; "Cloning and characterization of a cDNA encoding the baboon tissue inhibitor of matrix metalloproteinase-1 (TIMP-1).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
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01-FEB-1996 (Rel.
16-OCT-2001 (Rel.
                                               MACMU
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                                                                                                                                                                                                                                                                                                                                                                                          PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00965; TIMP; 1
                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR001820; TIMP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -!- SIMILARITY: BELONGS TO THE TIMP FAMILY
                                                                                                                  19
                                                                                                                                         24
                                                                                            84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AND IRREVERSIBLY INACTIVATES THEM.
SUBCELLULAR LOCATION: Secreted.
PTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFIDE BONDS
                                                                                                           VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                       CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                           VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
                                                                                                                                                                                                                                                                                                                                                                                                     SM00206; TIMP;
                                                                                                                                                                                                  Similarity
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                                                                                                                                                                                                                                     207
(Rel.
                                                                                                                                                                                       Conservative
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                                   STANDARD;
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40,
41,
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207
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189
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                                                                                                                                                                                                100.0%;
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Last sequence update)
Last annotation update)
 Last sequence update)
            Created)
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                                                                                                                                                                                     Score 579; DB 1;
Pred. No. 2.5e-59;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                              inhibitor; Erythrocyte maturation;
                                                                                                                                                                                                                                    5AE4FBDBEAB2ECDC
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RESULT 4
TIM1_BOVIN
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Best Local
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                                                        TIM1 BOVIN S
P20414; Q9TVB0;
01-FEB-1991 (Rel
01-FEB-1991 (Rel
16-OCT-2001 (Rel
                                                                                                                                                                                                                                                                                                                      CARBOHYD
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ji S., Wang Y., Li H., Ji W., Piao Y.;

"Cloning and characterization of tissue inhibitor of matrix
metalloproteinase-1 (TIMP-1) cDNA from Macaca mulatta.";
Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Glycoprotein; Metalloprotease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00965; TIMP; 1.
PROSITE; PS00288; TIMP; FALSE NEG.
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Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Macaca mulatta (Rhesus macaque).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-JUN-2002 (Rel. 41, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1)
                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF366397; AAK53704.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cercopithecinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                ignal
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND IRREVERSIBLY INACTIVATES THEM. SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFIDE BONDS
                                                                                                                                                                                    VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
                                                                                                                                                                                                                   CTCVLPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                                                                                     CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
                                                                                                                                                                      VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN
                                                                                                                                                                                                                                                                     105;
                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       THE ACTIVITY OF TIMP-1 IS DEPENDENT ON
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                                                                                                                                                                                                                                                                      Conservative
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                                                                                                          STANDARD;
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23247
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99.1%;
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BY SIMILARITY.
O-LINKED (GLCNAC. . . ) (
                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                  Score 569;
Pred. No. 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        inhibitor;
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                                                                                                                                                                                                                                                                      Mismatches
                                                                                                          207
                                                                                                                                                                                                                                                                                  DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Erythrocyte maturation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                    INHIBITOR
                                                                                                                                                                                                                                                                                                                       CRC64;
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                                                                                                                                                                                                                                                                                            Length 207
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                                                                                                                                                                                              106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRESENCE
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                                                                                                                                                                                                                                                                                                                                    (POTENTIAL)
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Eukaryota; Metazoa; Bos taurus TIMP1.

Chordata; Craniata; Vertebrata; Euteleostomi;

(Bovine)

Metalloproteinase

(Rel. 17, Created)
(Rel. 17, Last sequence update)
(Rel. 40, Last annotation updat
einase inhibitor 1 precursor (TI

notation update)
precursor (TIMP-1) (Embryogenin-1) (EG-

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cells.";
J. Biol. Chem. 264:17445-17453(1989).
J. Biol. Chem. 264:17445-17453(1989).
I. FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES).
I. FUNCTION: COMPLEXES THEM.
AND IRREVERSIBLY INACTIVATES THEM.
I. SUBCELLULAR LOCATION: Secreted.
I. SUBCELLULAR LOCATION: Secreted.
DISULEIDE BONDS.
I. SIMILARITY: BELONGS TO THE TIMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Balcerzak D., Quenegesser L., Dixon W.T., Baracos V.E.; salcerzak D., Quenegesser L., Dixon W.T., Baracos V.E.; Involvement of fibroblasts and muscle cells in the expression of an extracellular proteolytic cascade in bovine skeletal muscle."; Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
                                                                           MEDLINE=90365711; PubMed=2383392; MEDLINE=90365711; PubMed=2383392; Preudenstein J., Wagner S., Luck R.M., Einspanier R., Scheit K.H.; Preudenstein J., Wagner S., Inhibitor of metalloproteinase: sequence and "mRNA of boyine tissue inhibitor in tissue.";
                                                                                                                                                                                                                                                       MEDLINE=94257757; PubMed=8199264; Satch T., Kobayashi K., Yamashita S., Kikuchi M., Sendai Y., Hoshi Farisue inhibitor of metalloproteinases (TIMP-1) produced by granulosa and oviduct cells enhances in vitro development of bovine
Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 metalloproteinase inhibitors secreted by bovine aortic endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    METALLOPROTEINASE INHIBITOR 1.
BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Glycoprotein; Metalloprotease inhibitor; Erythrocyte maturation;
Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIINE=90008914; PubMed=2551903; de Clerck Y.A., Yean T.D., Ratzkin B.J., Lu H.S., Langley K.E.; "Purification and characterization of two related but distinct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E672BEE2E865F3F7 CRC64;
                                                                                                                                                                                       Biochem. Biophys. Res. Commun. 171:250-256(1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; S70841; AAB30892.1; -.
EMBL; AF144763; AAB30303.1; -.
PIR; A35685; A35685.
PIR; B34468; B34468.
                                                                                                                                                                                                                                                                                                                                                                  Biol. Reprod. 50:835-844(1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY SEQUENCE OF 24-69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ΜM
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                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 25-191 FROM N.A.
TISSUE=Skeletal muscle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP, P01033, 1UEA.
InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
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207
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                        Bovinae; Bos
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                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                          NCBI_TaxID=9913;
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    Mammalia;
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Length 207;

DB 1;

Score 508;

87.78;

Query Match

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Hyperoxic exposure alters gene expression in the lung. Induction of the tissue inhibitor of metalloproteinases mRNA and other mRNAs.";

J. Biol. Chem. 264:7092-7095(1989).

-!- FUNCTION: COMPLEXES WITH METALLOROTEINASES (SUCH AS COLLAGENASES)

AND IRREVERSIBLY INACTIVATES THEM.
-!- SUBCELDULAR LOCATION: Secreted.
-!- SUBCELDULAR LOCATIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF DISULPIDE BONDS.
-!- SIMILARITY: BELONGS TO THE TIMP FAMILY.
                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                   CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                            CTCVPPHPQTAFCNSDVVIRAKFVGTAEVNETALYQRYEIKMTKMFKGFSALRDAPDIRF 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oryctolagus cuniculus (Rabbit).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
1011_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           METALLOPROTEINASE INHIBITOR 1.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Glycoprotein; Metalloprotease inhibitor; Erythrocyte maturation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE-89214135; PubMed=2708356;
Horowitz S., Dafni N., Shapiro D.L., Holm B.A., Notter R.H.,
Quible D.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 206;
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Pred. No. 4.8e-51;
Pred. No. -Lna 9; Indels
                        Indels
                                                                                                                                                                                IYTPAMESVCGYFHRSQNRSEEFLIAGQLSNGHLHITTCSFVAPWN 129
                                                                                                                                                       61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
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                                                                                                                                                                                                                                                                                                                                                                                                16-OCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1).
                        ω.
      Pred. No. 3.7e-51;
                                                                                                                                                                                                                                                                                                                                                 (Rel. 17, Created)
(Rel. 17, Last sequence update)
(Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                               206 AA.
                           6; Mismatches
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86.88;
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Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; 1.
                        92; Conservative
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206
206
1122
1147
1196
1188
153
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HSSP; P01033; 1D2B.
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155
168
53
101
206 AA;
  Similarity
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92; Conserv
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DISULFID
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Best Local S
Matches 92
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CARBOHYD
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STITE TITES
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  ş
                                               Query Match
Best Local S
Matches 91
                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; S67450; AAB29472.1; -. HSSP; P0103; IUEA. InterPro; IPR001820; TIMP. Pfam; PF00965; TIMP; 1. SMART: SM00206; TIMP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Corpus luteum;
TISSUE=Corpus luteum;
MEDLINE=94102210; PubMed=8275949;
Smith G.W., Goetz T.L., Anthony R.V., Smith M.F.;
"Molecular cloning of an ovine ovarian tissue inhibitor of metalloproteinases: ontogeny of messenger ribonucleic acid metalloproteinases: ontogeny o
                                                                                                                                      CHAIN
DISULFID
DISULFID
DISULFID
DISULFID
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DISULFID
CARBOHYD
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                   Signal.
                                                                                                                                                                                                                                                                                                                                                                                                             Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         entities requires a license agreement (See http:\overline{//www}.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for contents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia; Eutheria;
Bovidae; Caprinae; (
NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ovis aries (Sheep).
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Metalloproteinase TIMP1.
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01-OCT-1996 (Rel.
16-OCT-2001 (Rel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Endocrinology 134:344-352(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AND IRREVERSIBLY INACTIVATES THEM. SUBCELLULAR LOCATION: Secreted. PTM: THE ACTIVITY OF TIMP-1 IS DEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE TIMP FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DISULFIDE BONDS
CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SHEEP
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E; PS00288; TIMP;
                                            Similarity
91; Conser
                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                             Metalloprotease
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34, Last sequence update)
40, Last annotation updat
inhibitor 1 precursor (TI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Cetartiodactyla;
Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chordata; Craniata; Vertebrata; Euteleostomi; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                    87.0%;
85.8%;
                                                                                                                                        ₩.
                                                                                                                               BY SIMILARITY.

METALLOPROTEINASE INHIBITOR
BY SIMILARITY.
OF THE STANDARD STANDA
                                          Score 504; DB Pred. No. 1.1e. 7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                             inhibitor; Erythrocyte maturation;
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                                     Db
1.1e-50;
8;
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                                                                                         DB
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                                                                                    Length 207;
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                                                                                                                                                        (POTENTIAL)
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                                          Gaps
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RESULT
TIM1_P
CHAIN
DISULFID
DISULFID
DISULFID
DISULFID
DISULFID
                                                                                                                            Glycoprotein;
Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (2]
SEQUENCE OF 34-195 FROM N.A.
Wang J.Y., Baer A.E., Kraus V.B., Setton L.A.;
"Gene expression level of mmp3 and Timp1 in in
"Gene expression level of the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                            EMBL; S96211; AAB21865.1; -.
EMBL; AF201726; AAF24348.1; -
EMBL; AF156029; AAF17354.1; -
HSSP; P01033; IUEA.
                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIM1_PIG STANDARD; PRT; 207 AA. P35624; 09TT83; 09TTB9; Created) 01-JUN-1994 (Rel. 29, Created) 16-OCT-2001 (Rel. 40, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) Metalloproteinase inhibitor 1 precursor (TIMP-1).
                                                                                                                                                                                                                InterPro; IPR001820; TI
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1
                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (S or send an email to license@isb-sib.ch).
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Submitted (JU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=92201478; PubMed=1312961;
Tanaka T., Andoh N., Takeya T., Sato E.;
"Differential screening of ovarian cDNA libraries detected the expression of the porcine collagenase inhibitor gene in function
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9823;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIMP1
                                                                                                                                                                                            SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wang J.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               corpora lutea."
Mol. Cell. Endoc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sus scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FISSUE=Skin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IISSUE=Ovary;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 37-144 FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bmitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS AND IRREVERSIBLY INACTIVATES THEM.
SUBCELLULAR LOCATION: Secreted.
PTM: THE ACTIVITY OF TIVE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE TIMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFIDE BONDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IYTPAMESVCGYFHRSQNRSEEFLIAGQLSNGHLHITTCSFVAPWN 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Endocrinol. 83:65-71(1992)
    1
24
24
26
26
26
150
150
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  23
207
93
122
147
197
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                                                                                                                                                                                                                                                           TIMP.
BY SIMILARITY.
METALLOPROTEINASE 1
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                        inhibitor;
                                                                                                                                                                                                                                                                                                                                                                                                         (See http://www.isb-sib.ch/announce/
                                                                                                                                                                      Erythrocyte
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         intervertebral disc.";
3J databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THE PRESENCE
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                                                                                                                                                                           maturation;
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IM1 MOUSE
DISULFID
DISULFID
DISULFID
                              CARBOHYD
CARBOHYD
                                                    SEQUENCE
                                                                          Query Match
                                                                                     Local
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                                                                                              Matches
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                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                         inhibitor of metalloproteins 1.";

Am. J. Vet. Res. 59:1557-1562(1998).

-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES).

-!- SUBCELLULAR LOCATION: Secreted.

-!- SUBCELLULAR LOCATION: Secreted.

-!- FUNCTION: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS (BY SIMILARITY).

-!- SIMILARITY: BELONGS TO THE TIMP FAMILY.
                                                                                                                                         Gaps
                                                                                                                                                            CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                       24 CTCVPPHPQTAFCSSDLVIRAKFVGAPEFNQTASYKRYEIKMTKMFKGFNALGDAPDIRF 83
                                                                                                                                                                                                                                                                                                                                                                Eŭkaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,.
Mammalia, Eutheria, Perissodactyla, Equidae, Equus.
BY SIMILARITY.

N-LINKED (GLCNAC. . .) (POTENTIAL).

A -> P (IN REF. 2).

S -> N (IN REF. 2).

V -> F (IN REF. 3).

K -> Q (IN REF. 1).

T -> A (IN REF. 1).

T -> A (IN REF. 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycoprotein; Metalloprotease inhibitor; Erythrocyte maturation;
                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=99074117; PubMed=9858406;
Richardson D.W., Dodge G.R.;
"Molecular characteristics of equine stromelysin and the tissue
                                                                                                                                         .,
0
                                                                                                                  86.4%; Score 500; DB 1; Length 207; 84.9%; Pred. No. 3.1e-50;
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METALLOPROFEINASE INHIBITOR
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                 84 IYTPAMESVCGYFHRSQNRSQEFLIAGQLWNGHLHITTCSFVAPWN 129
                                                                                                                                                                                                      61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLODGLLHITTCSFVAPWN 106
                                                                                              B04895846EB56BD0 CRC64;
                                                                                                                                                                                                                                                                                                 15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1).
                                                                                                                                        9.
                                                                                                                                                                                                                                                                              207 AA
                                                                                                                                        7; Mismatches
                                                                                               23098 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U95039; AAB53735.1; -. HSSP; P01033; 1UEA.
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Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; 1.
                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                              STANDARD;
  189
53
101
34
37
41
59
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207
93
122
147
                                                                                                                                                                                                                                                                                                                                                      Equus caballus (Horse)
                                                                                               207 AA;
                                                                                                                              Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
TISSUE=Cartilage;
                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9796;
  168
101
34
37
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36
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Johnson M.D., Housey G.M., Kirschmeier P.T., Weinstein I.B.;
Johnson M.D., Housey G.M., Kirschmeier P.T., Weinstein I.B.;
"Molecular cloning of gene sequences regulated by tumor promoters and mitogens through protein kinase C.";
mol. Cell. Biol. 7:2821-2829(1987).
-i- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
AND IRREVERSIBLY INACTIVATES THEM. ALSO MEDIATES EXYTHROPOLESIS IN VITRO; BUT, UNLIKE IL-3. IT IS SPECIES-SPECIFIC, STIMULATING THE GROWTH AND DIFFERENTIATION OF ONLY HUMAN AND MURINE ERYTHROID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gewert D.R., Coulombe B., Castelino M., Skup D., Williams B.R.G.; "Characterization and expression of a murine gene homologous to human EPA/TIMP: a virus-induced gene in the mouse."; EMBG J. 6:651-657(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P12032; P20064; 01-0CT-1989 (Rel. 12, Created) 01-0CT-1989 (Rel. 12, Created) 01-MAY-1991 (Rel. 18, Last sequence update) 16-0CT-2001 (Rel. 40, Last unnotation update) Metalloproteinase inhibitor 1 precursor (TIMP-1) (Erythroid potentiating activity) (EPA) (Tissue inhibitor of metalloproteinases) (Collagenase inhibitor 16C8 fibroblast) (TPA-induced protein)
                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                               1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus (Mouse).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                                                                                                                                                                                                                                                                                                                                                    24 CTCVPPHPQTAFCSSEFVIRAKFVGTSEVNQTTLQRRYEIKMTKMFKGFSALGDAPDTWF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROGENITORS.
SUBCELLULAR LOCATION: Secreted.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: FOUND IN FETAL AND ADULT TISSUES. HIGHEST LEVELS ARE FOUND IN BOUND IN LUNG, OVARY AND UTERUS INDUCTION: RECULATED BY TUMOR PROMOTERS AND MITOGENS THROUGH PROTEIN KINASE C. ALSO INDUCED BY VIRUSES.
FTM: THE ACTIVITY OF TIMP-1 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
N-LINKED (GLCNAC. .) (POTENTIAL)
N-LINKED (GLCNAC. .) (POTENTIAL)
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                                                                                                                                                                                                                                 Length 207;
                                                                                                                                                                                                                                                                                                11; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VYTPAMESLCGYFHRSENRSEEFLIAGQLLDEKLYITTCSFVAPWN 129
                                                                                                                                                                  23046 MW; FD710DA98D168070 CRC64;
                                                                                                                                                                                                                           Score 477; DB 1;
Pred. No. 1.3e-47;
7; Mismatches 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        205 AA
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MEDLINE=88038821; PubMed=3670294;
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                                                                                                                                                                                                                                    82.48;
                                                                                                                                                                                                                                                               83.0%;
                                                                                                                                                                                                                                                                  l Similarity 83.0
88; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIMPI OR TIMP-1 OR TIMP.
      197
160
189
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207 AA;
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EMBL; M28308; AAB42179.1; JOINED.
EMBL; M28309; AAB42179.1; JOINED.
EMBL; M28310; AAB42179.1; JOINED.
EMBL; M28310; AAB42179.1; JOINED.
EMBL; M28311; AAB42179.1; JOINED.
EMBL; X04684; CAA28387.1; --
EMBL; M17243; AAA40471.1; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ery Match
                                                                               TIMI CANFA STANDARD; PRY: 20, AM. P81546; Q9TQS5; 15-JUL-1999 (Rel. 38, Created) 16-OCT-2001 (Rel. 40, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation updat. Metalloproteinase inhibitor 1 precursor (TI
                                                                                                                                                                                                                   CANFA
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PIR; A26633; A
PIR; A26106; A
PIR; A26917; A
HSSP; P01033;
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CONFLICT
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Carnivora;
NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGD; MGI:98752; Timp.
MGD; MGI:98752; Timp.
InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glycoprotein; Metalloprotease inhibitor; Erythrocyte maturation;
                                                            Canis familiaris (Dog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE;
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                                                                                                                                                                                                                                                                                                AYTPVMESLCGYAHKSQNRSEEFLITGRLRNGNLHISACSFLVPW
                                                                                                                                                                                                                                                                                                                                    VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPW 105
                                                                                                                                                                                                                                                                                                                                                                                                                СТСVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60
                                                                                                                                                                                                                                                                                                                                                                             CSCAPPHPQTAFCNSDLVIRAKFMGSPEINETTLYQRYKIKMTKMLKGFKAVGNAADIRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                          78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
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205
94
123
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197
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189
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1139
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                      Chordata; Craniata; Vertebrata; Carnivora; Fissipedia; Canidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        79.1%;
74.3%;
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BY SIMILARITY.
BY SIMILARITY
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Pred. No. 2e-45;
7; Mismatches
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                                                                                                 update)
or (TIMP-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1; Length 205;
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                      Euteleostomi;
Canis.
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InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
PR0SITE; PS00288; TIMP; FALSE_NEG.
PR0SITE; PS00288; TIMP; FALSE_NEG.
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SEQUENCE
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MEDLINE=92175241; PubMed=1794505;
Chopra R., Koklitis P.A., Bergin S., Row
"Purification of recombinant dog tissue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Glycoprotein; Metalloprotease Signal.
SIGNAL 1 23
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EMBL; AF077817; AAD10632.1; -.
EMBL; AF079767; AAD10633.1; -.
HSSP; P01033; 1UEA.
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-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=99132652; PubMed=9931441; Zeiss C.J., Acland G.M., Aguirre G.D., Ray K.; Telss C.J., Acland is increased in X-linked progressive retinal atrophy despite its exclusion as a candidate gene."; Gene 225:67-75(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=MADIN-DURBY;
Noritake H., Miyamori H., Goto C., Seiki M., Sato H.;
Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                               CARBOHYD
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                                                                                                                 Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AND IRREVERSIBLY INACTIVATES THEM. SUBCELLULAR LOCATION: Secreted.
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                          CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF
CTCAPPHPQTALCNSQIVIRAKFVGTAEVNQTDLNRRYEIKMTKMFKGFSALGNASDIRF
                                                                                         83; Conservative
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207 AA;
                                                                                                                                                                                     22852
                                                                                                             78.6%;
78.3%;
                                                                                                                                                                                     MW;
                                                                                                                                                                              BY SIMILARITY

METALLOPROTEINASE INF
BY SIMILARITY

                                                                                         9,
                                                                                       Score 455; DB 1; I
Pred. No. 4.5e-45;
9; Mismatches 14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INHIBITOR 1.
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                                                                                                                                  Length 207;
                                                                                                                                                                                     CRC64;
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(POTENTIAL)
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VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Papadopoulos V.; "Identification of a stimulator of steroid hormone synthesis isolated
                                                                                                                                                                                                                                                                                                        STRAIN=Wistar; TISSUE=Skin dorsal; MEDIATE=SO11636; PubMed=7926820; Okada A., Garnier J.M., Vicaire S., Basset P.; Cloning of the cDNA encoding rat tissue inhibitor of metalloproceinase 1 (TIMP-1); amino acid comparison with other TIMPs, and gene expression in rat tissues."; Gene 147:301-302(1994).
                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=9617,024; PubMed=8707259; Iredale J.P., Benyon R.C., Arthur M.J.P., Ferris W.F., Alcolado R., Winwood P.J., Clark N., Murphy G.; Tissue inhibitor of metalloproteinase-1 messenger RNA expression is enhanced relative to interstitial collagenase messenger RNA in experimental liver injury and fibrosis."; Hepatology 24:176-184(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 39-156 FROM N.A., SEQUENCE OF 24-38, INDUCTION, FUNCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 24-45.

BEDLINES-22117648; PubMed=1309971;

ROSWIL W.T., McCourt D.W., Partridge N.C., Jeffrey J.J.;

"Purification and sequence analysis of two rat tissue inhibitors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Boujrad N., Ogwuegbu S.O., Garnier M., Lee C.-H., Martin B.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
TISSUE-Mammary gland;
Gibbons K.L., O'Grady R.L., Piper A.A.;
Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
84 VDTPALESVCGYLHRSQNRSEEFLVAGNLRDGHLQINTCSFVAPWS 129
                                                                                                                                   01-NOV-1995 (Rel. 32, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Metalloproteinase inhibitor 1 precursor (TIMP-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND SUBCELLULAR LOCATION.
STRAIN=Sprague-Dawley, TISSUE=Sertoli cells,
MEDLINE=95296691; Pubmed=7777858;
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                                                                              TIM1 RAT 5...... P30120; P70533; 01-APR-1993 (Rel. 25, Created) ......1995 (Rel. 32, Last seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Science 268:1609-1612(1995).
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                                                                                                                                                                                                       Rattus norvegicus (Rat).
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N'LINKED (GLONAC. . .) (POTENTIAL).
N'LINKED (GLONAC. . .) (POTENTIAL).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scyliorhinus torazame (Cloudy catshark).
Bukaryota; Metazoa; Chordatea; Craniata; Vertebrata; Chondrichthyes;
Elasmobranchii; Galeomorphii; Galeoidea; Carcharhiniformes;
Scyliorhinidae; Scyliorhinus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Metalloproteinase inhibitor 3 precursor (TIMP-3) (Tissue inhibitor
metalloproteinases-3).
                                                                                                                                                                                                                                                                                                                                                                                                                                           24 CSCAPTHPQTAFCNSDLVIRAKFMGSPEIIETTLYQRYEIKMTKMLKGFDAVGNATGFRF
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                                                                                                                       Glycoprotein; Metalloprotease inhibitor; Erythrocyte maturation;
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                                                                                                                                                   METALLOPROTEINASE INHIBITOR 1.
                                                                                                                                                                                                                                                                                                                                                                                         Length 217;
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                                                                                                                                                                                                                                                                                                                                                                      C5AC240A61C1A1DF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Cartilage;
PubMed=11342115;
Kim J.T., Kim M.-S., Bae M.-K., Song H.S., Ahn M.-Y.,
Lee S.-J., Kim K.-W.;
"Cloning and characterization of tissue inhibitor of
                                                                                                                                                                                                                                                      A -> V (IN REF. 4).
S -> R (IN REF. 3).
HN -> AS (IN REF. 3).
QKAFV -> RKGLT (IN REF.
                                                                                                                                                                                                                                                                                             V -> L (IN REF. 4).
A -> V (IN REF. 3).
S -> T (IN REF. 3).
DHF -> RHL (IN REF. 3).
D -> G (IN REF. 3).
Y -> S (IN REF. 3).
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send an email to license@isb-sib.ch)
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                                     EMBL; L29512; AAB08483.1; -. EMBL; U16022; AAA51653.1; ALT_SEQ. PIR; S20226; S20326. HSSP; P01033; 1UEA.
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                   EMBL; U06179; AAA85780.1; -.
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                                                                            InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
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RESULT 13
TIM2_CAVPO
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Best Local
          STRAIN=Hartley, TISSUE=Lung;
MEDLINE=20215260; PubMed=10749751;
Melendez J. Maldonado V. Selman M.
"Cloning and expression of guinea pi
hyperoxic lung injury.";
Am. J. Physiol. 278:L737-L743(2000).
-i- FUNCTION: COMPLEXES WITH METALLO
                                                                                                                                                                                                               Q9WUC6;
16-OCT-2001 (Rel. 4
16-OCT-2001 (Rel. 4
16-OCT-2001 (Rel. 4
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                                                                                                                     Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10141;
                                                                                                                                                                                                   Metalloproteinase
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Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; 1.
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-i- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGEN/AND IRREVERSIBLY INACTIVATES THEM. MAY FORM PART OF A TISSUE-SPECIFIC ACUTE RESPONSE TO REMODELING STIMULI (By similarity).

-i- SUBCELLULAR LOCATION: Secreted. Extracellular matrix (By
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          J. Physiol. 278:L737-L743(2000). FUNCTION: COMPLEXES WITH METALLOPROTEINASES
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European Bioinformatics Institute.
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een the Swiss Institute of Bioinformatics and the EMBL outst
European Bioinformatics Institute. There are no restrictions
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IRREVERSIBLY INACTIVATES
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38; TIMP; 1.
s inhibitor;
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43.0%;
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METALLOPROTEINASE INHIBITOR 3
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Pred. No. 9.2e-20
9; Mismatches 30
                                                                                                                                    Craniata; Vertebrata; Hystricognathi; Caviio
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                                              Pardo A.;
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                                               Expression
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P16035; Q3006; Q16121;
01-APR-1990 (Rel. 14, CI
01-NOV-1990 (Rel. 16, Li
              SEQUENCE FROM N.A.

MEDLINE=90207285; PubMed=2157214;

Boone T.C., Johnson M.J., de Clerck Y.A.,

"CDNA cloning and expression of a metallop

to tissue inhibitor of metalloproteinases
                                                                                            SEQUENCE FROM N.A.

MEDLINE=90338014; PubMed=2380196;

MEDLINE=90338014; PubMed=2380196;

Stetler-Stevenson W.G., Brown P.D., Onisto

"Tissue inhibitor of metalloproteinases-2 (
tumor cell lines and human tumor tissues.";
                                                                                                                                                                                                                                  01-APR-1990 (Rel. 14, Created)
01-NOV-1990 (Rel. 16, Last sequence upda
16-CCT-2001 (Rel. 40, Last annotation up
Metalloproteinase inhibitor 2 precursor
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Mammalia; Eutheria;
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SMART; SM00206; TIMP;
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HSSP; P16035; 1
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TISSUE SPECIFICITY: PREDOMINANTLY EXPRESSED ALVEOLAR MACROPHAGES AND EPITHELIAL CELLS. IXIDNEY, INTESTINE, SPLEEN, AND HEART.
PTM: THE ACTIVITY OF TIMP-2 IS DEPENDENT ON
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or (TIMP-2)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 metalloproteinases (TIMP-1 and TIMP-2) from human rheumatoid synovial fluid.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=93125366; PubMed=1480041; Steeler-Stevenson W.G., Krutzach H.C., Liotta L.A.; Teteler-Stevenson W.G., Krutzach H.C., Liotta L.A.; Tidentification and characterization of a new member of the metalloproceinase inhibitor family.";
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Muskett F.W., Frenkiel T.A., Feeney J., Freedman R.B., Carr M.D.,
Williamson R.A.;
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MEDLINE=90046765; PubMed=2554304;
Goldperg G.I., Marmer B.L., Grant G.A., Eisen A.Z., Wilhelm S., "Human 72-kilodalton type IV collagenase forms a complex with a tissue inhibitor of metalloproteases designated TIMP-2.";
Proc. Natl. Acad. Sci. U.S.A. 86:8207-8211(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TIŠSUB=Synovial fluid;
MEDLINE=92111776; PubMed=1730286;
Osthues A., Knaueper V., Oberhoff R., Reinke H., Tschesche H.;
"Isolation and characterization of tissue inhibitors of
                                                                                                           Hammani K., Blakis A., Morsette D., Bowcock A., Schmutte C., Henriet P., Declerck Y.A., "Structure and characterization of the human tissue inhibitor
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Tuuttila A., Morgunova E., Bergmann U., Lindqvist Y., Maskos Fernandez-Catalan C., Bode W., Tryggvason K., Schneider G.; "Three-dimensional structure of human tissue inhibitor of metalloproceinases-2 at 2.1-A resolution.";
                                                                                                                                                                                                                                         14.
SEQUENCE OF 30-214 FROM N.A.
Malik K., Sejima H., Aoki T., Iwata K.;
Suhmitted (AUG-1990) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                              Stetler-Stevenson W.G., Krutzsch H.C., Liotta L.A.; "Tissue inhibitor of metalloproteinase (TIMP-2). A rmetalloproteinase inhibitor family."; J. Biol. Chem. 264:17374-17378(1989).
Natl. Acad. Sci. U.S.A. 87:2800-2804(1990).
                                                                                                                                                                                                        Biol. Chem. 271:25498-25505(1996)
                                                                                             MEDLINE=96411768; PubMed=8810321;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@ibc.elb.ch/.
               interaction site with matrix metalloproteinase-3.";
J. Biol. Chem. 273:21736-21743(1998)
-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
AND IRREVERSIBLY INACTIVATES THEM. KNOWN TO ACT ON MMP-1, MMP-2, MMP-3, MMP-7, MMP-8, MMP-9, MMP-10, MMP-13, MMP-16, MMP-16
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PTM: THE ACTIVITY OF TIMP-2 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS.
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Pred. No. 1.2e-19;
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M -> F (IN REF. 5 AND 6).
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P -> I (IN REF. 5 AND 6).
S -> B (IN REF. 4 AND 6).
S -> B (IN REF. 5 AND 6).
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M -> R (IN REF. 5 AND 6).
M -> Q (IN REF. 5 AND 6).
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EMBL, G48568, AAB19474.1, -.
EMBL, U44388, AAC50729.1, JOINED.
EMBL, U44383, AAC50729.1, JOINED.
EMBL, U44383, AAC50729.1, JOINED.
EMBL, M4383, AAC50729.1, JOINED.
EMBL, M32304, AAA59581.1, -.
EMBL, K54533, CAA38400.1, -.
EMBL, S68860, AAD14025.1, -.
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PROSITE; PS00288; TIMP;
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PDB; 1BR9; 04-MAY-99
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AND MMP-19.
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Submitted (NOV-1993) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)

AND IRREVERSIBLY INACTIVATES THEM (BY SIMILARITY).

-!- SUBCELLULAR LOCATION: Secreted.

-!- PTM: THE ACTIVITY OF TIMP-2 IS DEPENDENT ON THE PRESENCE OF DISULFIDE BONDS (BY SIMILARITY).

-!- SIMILARITY: BELONGS TO THE TIMP FAMILY.
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15-DEC-1998 (Rel. 37, Last sequence update)
16-DCT-2001 (Rel. 40, Last annotation update)
Metalloproteinase inhibitor 2 precursor (TIMP-2) (Tissue inhibitor of
                                                                                                                                                                                                                                                                                                                                                                                                                              Metalloprotease inhibitor; Signal. NON_TER 1 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cricetulus longicaudatus (Long-tailed hamster) (Chinese hamster).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; X75924; CAA53528.1; -. HSSP; P16035; 1BR9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation strong the European Bioinformatics Institute. There are no restrictions on its the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   metalloproteinases-2) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00288;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
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                                                                     58
                                                                                   54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLQ-DGLLHITTCSFVAPWN 106
                                                                                                                                                          1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ-TTLYQ-----RYBIKMTKMYKGFQALG 53
                                                               PDKDIEFIYTAPSSAVCG-VSLDVGGKKEYLIAGKAEGDGKMHITLCDFIVPWD 110
                                                                                                                                   CSCSPVHPQQAFCNADVVIRAKAVSEKEVDSGNDIYGNPIKRIQYEIKQIKMFK----- G 57
                                                                                                                                                                                                      51;
                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                         148
196 AA;
                                                                                                                                                                                                        Conservative
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METALLOPROTEINASE INHIBITOR 2.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ltd.
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Ośmz12 ovis aries
Q925g6 mesocricetu
Q91zp7 rattus norv
Q95k17 macaca mula
Q9ttb7 sus scrofa
Q9ttb8 sus scrofa
Q9ttb6 sus scrofa
Q9ttb7 rattus sp.
Q9qv13 mus sp. col
Q9qv13 mus sp. col
Q9qv14 gallus gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q96qm2 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
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		Created)	19,	•	(TrEMBLrel	01-DEC-2001	200
	169 AA.	PRT;		PRELIMINARY;		QM2	Q96QM2
							SULT 1
•	ALIGNMENTS	ALIGN					
Q9m9v1 arabidopsis		Q9M9V1	10	387	10.9	63	. <u>4</u> . 5
schi		Q9C1W3	ω	457	11.0	63.5	44
homo		Q9H262	. 4.	1079	11.1	64.	43
Ogunco Homo sapien		0541160	4	1079	11 1	o 10	4 4
		QUYERL	4. 4	1079	11.1		40
homo		015153		1035	11.1		39
Q9nrz1 homo sapien		Q9NRZ1	4	995	11.1	64	38
2 ratt		035802	11	932	11.1	64	37
Q8vh23 mus musculu		Q8VH23	11	46	11.1	64	36
Q9n506 caenorhabdi		Q9N506	υī	923	11.1	4	35
		Q8T4K1	ហ	853	11.1	64.5	34
Q92ef0 listeria in		Q92EF0	16	195	11.1	64.5	J J
		Q94CU5	10	943	11.2	65	32
Bum		Q9CST1	11	161		65	31
lomo sapi		075294	4	517	11.3	65.5	30
Q9xbq4 bacillus st		Q9XBQ4	N	220		U	29
		Q9P9N3	16	597	•		28
Q9htjl pseudomonas		Q9HTJ1	16	490	11.5	66.5	27
erin		Q95MI9	σ	2328	11.7	7	26
		054882	11	942	11.7	68	25
mus		Q91W60	11	941	11.7	68	24
		Q9DBK8	11	902	11.7	68	23
		Q98B78	16	388	11.7	68	22
		Q9CY42	11	345	11.9	69	21
		Q93VL6	10	1118	12.1	70	20
w		Q8R3X3	11	122	•	70.5	19
arabidops		807	10	530	12.4	72	18
Q21265 caenorhabdi		Q21265	ហ	158	12.8	74	17

Query Match Best Local S Matches 106 Strausberg R.; Strausberg R.; Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases. Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases. InterPro; IPR001820; TIMP. InterPro; IPR001820; TIMP. Pfam; PF00965; TIMP; 1. PROSITE; PS00288; TIMP; UNKNOWN 1. SEQUENCE 169 AA; 18847 MW; 6C164206C87D815C CRC64; 01-DEC-2001 (TrEMBLrel. 19, Last sequence update) 01-MAR-2002 (TrEMBLrel. 20, Last annotation update) Tissue inhibitor of metalloproteinase 1 (erythroid potentiating activity, collagence inhibitor). Homo sapiens (Human). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. SEQUENCE FROM N.A. NCBI_TaxID=9606; TISSUE=PROSTATE; 84 61 24 μ. CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRF 60 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 129 VYTPAMESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106 106; Similarity Conservative 100.0%; Score 579; DB 4; 100.0%; Pred. No. 1.8e-59; ive 0; Mismatches 0; Length 169; Indels Gaps

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RESULT Q9MZ12

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NCBI_TaxID=10116;
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Q91ZP7
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KO K.H., Shin C.Y., Lee W.J., Yoo B.K., Ryu J.R., Park K.H.,

"Expression of metalloproteinase-2 (gelatinase A) and tissue inhibitor

of metalloproteinase-2 (TIMP-2) from hamster tracheal goblet cells: a

possible role in upper airway inflammation.",

Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.

EMBL, AF260255, AAK51636.1;

Interpro; IPR01820; TIMP.

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194

194
                                                                                                                                                                               MEDLINE=20347710; PubMed=10888873; Galloway S.M., McNatty K.P., Cambridge L.M., Laitinen M.P.E., Juengel J.L., Jokiranta S., McLaren R.J., Luiro K., Dodds K.D., Montgomery G.W., Beattie A.E., Lower G.H., Ritvos O.; Partie A.E., Dodds K.D., "Mutations in an ocyte-derived growth factor (BMPI5) cause increased ovulation rate and infertility in a dosage-sensitive manner."; Mar. Gente. 25:279-283(2000).

HNR: Gente. 25:279-283(2000).

HNR: APEG8477; AAF81746.1; --
HNSP; PO1033; 1D2B.

FMEL; APEG8477; AAF81746.1; --
HNRSP; PO1033; IDPP.

FMEN; PF00965; TIMP: 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                         7 HPQTAFCNSDLVIRAKFVGTPEVNQTTLYQRYEIKMTKMYKGFQALGDAADIRFVYTPAM 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 HPQTAFCNSEVVIRAKFVGTAEVNETALYQRYEIKMTKMFKGFSALRDAPDIRFIYTPAM 60
                                                                                    Ovis aries (Sheep).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Ammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mesocricetus auratus (Golden hamster).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Cricetinae,
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                                                                                                                                                                                                                                                                                                                                                                                                  80.0%; Score 463; DB 6; Length 137;
85.0%; Pred. No. 4.5e-46;
ive 7; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Tissue inhibitor of matrix metalloproteinase-2 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
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                                                                                                                                                                                                                                                                                                                                                                            137 AA; 15396 MW; 62009B069D0594B7 CRC64;
                       01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-UUN-2002 (TrEMBLrel. 21, Last annotation update)
Tissue inhibitor of metalloproteinase 1 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             67 ESVCGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 ESVCGYFHRSQNRSEEFLIAGQLSNGHLHITTCSFVAPWN 100
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43.0%; Pred. No. 7.8e-18;
iive 16; Mismatches 35;
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137
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Matches 49; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                 85; Conservative
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PRELIMINARY;
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Matches 85; Conserv
                                                                                                                                                                         SEQUENCE FROM N.A.
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SEQUENCE FROM N.A. STRAIN=WISTAR, TISSUE=OVARY, ESPEY L.L., Ujioka T., Okamura H., Richards J.S.; Espey L.L., Ujioka T., Okamura H., Richards J.S.; "Expression of metallothionein-1 (MT-1) in steroid-secreting cells of the rat ovary during the peri-ovulatory period following gonadotropin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
      23
                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
Cercopithecinae, Macaca.
CTCVPPHPQTAFCNSDLVIRAKFVGTPEVNQ-TTLYQ-----RYEIKMTKMYKGFQALG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 AVGNATGERFAYTPAMESLCGYVHKSONRSEEFLIAGRLRNGNLHITACSFLVPWH 57
                                                                                                                                                     56 PDKDIEFIYTAPSSAMCG-VSLDVGGKKEYLIAGKAEGDGKMHITLCDFIVPWD 108
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 145;
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Ji S., Wang Y., Li H., Ji W., Piao Y.;

"Cloning and characterization of tissue inhibitor of matrix
metalloproteinase-3 (TIMP-3) cDNA from Macaca mulatta.";

Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.

BMBL, APR66399; AAK53706.1;

InterPro, IPR001820; TIMP.

Pfam; PF00965; TIMP; 1.

NON TER 126

SEQÜENCE 126 AA; 14690 MW; 2F162249A7D2615E CRC64;
                                                                                                                       54 DAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGKLO-DGLLHITTCSFVAPWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 219, DB 11; Length 1
Pred. No. 1.2e-17;
9; Mismatches 9; Indels
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Tissue inhibitor of matrix metalloproteinase-3 (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-DRA-2002 (TrEMBLrel. 20, Last annotation update)
Tissue inhibitor of metalloproteinase I (Fragment).
Rattus norvegicus (Rat).
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Best Local Similarity 67.9°
Matches 38; Conservative
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Best Local
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Best Local (
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SEQUENCE
                 Q9TTB8; PRELIMINARY; PRT; 138 AA.
Q9TTB8; Q1-mAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 17, Last annotation update)
Metalloproteinase inhibitor 2 (TIMP-2) (Tissue inhibitor of metalloproteinases-2) (Fragment).
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DISULFID
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"Cloning and sequencing of porcine TIMPs.";
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS COLLAGENASES)
-NAD IRREVERSIBLY INACTIVATES THEM. MAY FORM PART OF A TISSUE-
SPECIFIC ACUTE RESPONSE TO REMODELING
-!- SUBCELLULAR LOCATION: EXTRACELLULAR.
-!- SUBCELLULAR LOCATION: EXTRACELLULAR.
-!- SIMILARITY: BELONGS TO THE TIMP FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-JUN-2001 (TrEMBLrel. 17,
Metalloproteinase inhibitor
metalloproteinases-3) (Fragm
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Q9TTB7;
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Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
Metalloprotease inhibitor.
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Mammalia; Eutheria;
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     TIMP-2
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                                                                                                                                                                                                                                                                                                                                     CGYFHRSHNRSEEFLIAGKLQDGLLHITTCSFVAPWN 106
                                                                                                                                                                                                                                                                                                                                                                                        CNSDIVIRAKVVGKKLVKEGPFGTLV--YTIKOMKMYRGFTKM---PHVQYIHTEASESL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FCNSDIVIRAKVVGKKLVKEGPFGTLV--YTIKQMKMYRGFTKM---PHVQYIHTEASES
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36;
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129
152
152
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121
150
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Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17736 MW;
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37.1%;
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Last annotation update)
3 (TIMP-3) (Tissue inhibitor
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Pred. No. 2e-1:
20; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 159; DB 6;
Pred. No. 1.3e-10;
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78
78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4050E5F5FC58B5E7 CRC64;
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Y SIMILARITY.
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Sus.
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Metalloproteinase inhibitor 4 (TIMP-4) (Tissue inhimetalloproteinases-4) (Fragment).
                                                                                                     EMBL; AF156032; AAF17357.1;
HSSP; P16035; 2TMP.
                                                                                                                                                               Wang J.F., Boykiw R.H., Reno C.R., Hart D.A., Ol
"Cloning and sequencing of porcine TIMPS.":
Submitted (JUN-1999) to the BMBL/GenBank/DDBJ da
-!- FUNCTION: COMPLEXES WITH METALLOPROTEINASES
                                                                                                                                                                                                                                                 Sus scrofa (Pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR001820; TIMP. Pfam; PF00965; TIMP; 1. SMART; SM00206; TIMP; 1. Metalloprotease inhibitor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wang J.F., Boykiw R.H., Reno C.R., Hart D.A., Olson M.E., "Cloning and sequencing of porcine TIMPs.";
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
-i- FUNCTION: COMPLEXES WITH METALLOPROTEINASES (SUCH AS AND IRREVERSIBLY INACTIVATES THEM.
-i- SUBCELLULAR LOCATION: EXTRACELLULAR.
-i- PTM: THE ACTIVITY OF TIMP-2 IS DEPENDENT ON THE PRESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9823;
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Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                  InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
SMART; SM00206; TIMP; 1.
                                                                                                                                                                                                               SEQUENCE FROM N.A.
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[1]
                                                                                                                                                                                                                                                                                     TIMP-4
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01-MAY-2000
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HSSP; P16035; 1BR9.
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Wang J.F., Boykiw R.H.,
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                                                         loprotease
                                                         SM00206; TIMP; 1. oprotease inhibitor.
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138
138 AA;
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107
112
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138
15596
 154
154
117
146
170
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39.8%;
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                                                                                                                             THE TIMP FAMILY
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Pred. No. 5.6e-10;
            78
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           SIMILARITY.
SIMILARITY.
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Sus.
                                                                                                                                                                                                                                                  Euteleostomi;
Sus.
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MEDLINE=21329024; PubMed=11434928; Montagnani C., Le Roux F., Berthe F., Escoubas J.M.; Montagnani C., Le Roux F., Berthe F., Escoubas J.M.; Cg-TIMP, an inducible tissue inhibitor of metalloproteinase from the Pacific oyster Crassostrea gigas with a potential role in wound healing and defense mechanisms."; FEBS Lett. 500:64-70(2001).

EMBL, AF321279; AAG42824.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Folkman J.;

"Purification and characterization of two collagenase inhibitors from mouse sarcoma 180 conditioned medium.";

J. Cell. Blochem. 56:97-105 (1994).

HSSP; P01033; 1UEA.

InterPro; IPROJ0565; TIMP.

Pfam; PF00965; TIMP; 1.

SEQUENCE 25 AA; 2678 MW; 923226E82C1901FD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus sp.
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia; Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
NCBI_TaxID=10095,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OlimAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Tissue inhibitor of metalloproteinase TIMP.
Trassostrae agiase (Paclific Oyter).
Eukaryota; Metazoa; Mollusca; Bivalvia; Pteriomorphia; Ostreoida;
Ostreoidea; Ostreidae; Crassostrea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=95105266; PubMed=7806596;
Rosenthal R.A., Moses M.A., Shintani Y., Megyesi J.F., Langer R.
                                                                                                              35129B2B74C1FDAF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-WAY-2000 (TrEMBLrel. 13, Created)
01-WAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Collagenase inhibitor MS-31 (Fragment).
                                                                                                                                                                 Score 124; DB 11;
Pred. No. 1.8e-07;
2; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 124; DB 11;
Pred. No. 1.8e-07;
3; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25 AA
                                                                                                                                                                                                                          2; Mismatches
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84.0%;
HSSP; P01033; 1UEA.
INTERPRO; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
PROSITE; PS00288; TIMP; 1.
SEQUENCE 25 AA; 2698 MW;
                                                                                                                                                                                        84.08;
                                                                                                                                                                    21.4%;
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InterPro; IPR001820; TIMP.
Pfam; PF00965; TIMP; 1.
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Best Local Simil
Matches 21; (
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus
NCBI_TaxID=10118;
                                                                                                                                                                    37 RYEIKMTKMYKGFQALGDAADIRFVYTPAMESVCGYFHRSHNRSEEFLIAGK-LQDGLLH 95
                                                                                                                                                                                                   21 RYEIKQIKMFKGFEKI---SDIQYIYTPFDSSLCG-VKLETNSQKQYLLTGQILSDGKVF 76
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
11 ssue inhibitor of metaloproteinase 2 (Fragment).
Xenopus laevis (African clawed frog).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Partial purification and amino acid sequence analysis of endometriosis protein-II (ENDO-II) reveals homology with tissue inhibitor of metalloproteinases-1 (TIMP-1).";
J. Clin. Endocrinol. Metab. 80:3784-3787(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CTCVPPHPQTAFCNSDLVIRAKFVGTPEV-NQTTLYQ-----RYEIKMTKMYKG 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       / Match 22.4%; Score 129.5; DB 13; Length 97; Local Similarity 49.1%; Pred. No. 2e-07; nes 27; Conservative 8; Mismatches 13; Indels 7;
                                                     24.8%; Score 143.5; DB 6; Length 170; 40.0%; Pred. No. 9.2e-09; ive 17; Mismatches 20; Indels 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
Leco K., Jung J.-C., Fini M., Edwards D.R.;
"Role of Matrix Metalloproteinase in Metamorphic Tadpole Tail
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19831 MW; 29E6412F2D42817D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DDE1F6CD749E5803 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2000 (TrEMBLrel. 13, Last sequence update) 01-JUN-2002 (TrEMBLrel. 21, Last annotation update) ENDOMETRIOSIS protein-II (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9QUW9;
01-MAY-2000 (TrEMBLrel. 13, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMART; SM00206; TIMP; 1.
PROSITE; PS00288; TIMP; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE.
MEDLINE=96094433; PubMed=8530636;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97 AA; 10646 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel. 20, (TrEMBLrel. 20, I (TrEMBLrel. 21, I
                                                                                                                 28; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Xenopus.
                                                                                                                                                                                                                                                                                   96 ITTCSFVAPW 105
           170 AA;
                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                     77 IHLCNYIEPW 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=8355;
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01-MAR-2002 (
01-JUN-2002 (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Xenopodinae;
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           SEOUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QBUUZZ
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DT HYPOT
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Q9QV14
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Matches
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                            Wang X., Ding X., Maier T., G
Davis E.L.;
"Nematode metalloproteinase i
Submitted (JUN-1999) to the E
EMBL; AF159591; AAF76926.1; -
InterPro; IPR001820; TIMP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9QV14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-UUN-2002 (TrEMBLrel. 21, Last annotation updat
Hypothetical esophageal gland cell secretory prot
                                                                                                                                                                                                                                                                                                                                         Heterodera glycines (Soybean cyst nematode).
Eukaryota; Metazoa; Nematoda; Chromadorea; T
Tylenchoidea; Heteroderidae; Heteroderinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSP12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SMART; SM00206; TIMP; 1.
SEQUENCE 221 AA; 25332 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9NDF1;
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=95105266; PubMed=7806596; Rosenthal R.A., Moses M.A., Shintani Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-MAY-2000 (TrEMBLrel. 13, 01-MAY-2000 (TrEMBLrel. 13, 01-JUN-2002 (TrEMBLrel. 21, Collagenase inhibitor MS-22
                                                                                                                                                                                                  SEQUENCE FROM N.A. Wang X., Ding X., Maier T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9NDF1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSP; P16035; 1BR9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Purification and characterization of two collagenase mouse sarcoma 180 conditioned medium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Folkman J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10095;
                                                                                                                                                                                                                                                                                                  NCBI_TaxID=51029;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR001820; TIMP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KGSSLLG-SSDTLVIKTSGTPWNCG---ETFTLNKEYVISGFVSDGEFFTNNCQ---
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CMCDFTHPQNNFCSADFVIKATIVKEELKFGDESMGIPFPLQKNYTVQFKKRDI-----F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PF00965; TIMP;
TE; PS00288; TII
          PF00965;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 Similarity
19; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TIMP; 1.
3232 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             conditioned medi
56:97-105(1994).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
(Fragment)
                                                                                                      inhibitor precursor.",
EMBL/GenBank/DDBJ data
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4.
                                                                                                                                                                                                      Goellner M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                             inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 106;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 111.5;
Pred. No. 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 2.76
; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EB658F11186284D9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA53F67EB137A06A CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 11;
2.7e-05;
hes 7;
                                                                                                                                                                                                      Baum T.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Megyesi J.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
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                                                                                                                                                                                                                                                                                                                                                                         Tylenchida; Tylenchina;
                                                                                                                                                                                                                                                                                                                                                Heterodera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein 12
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X Kuroda M., Ohta T., Uchiyama I., Baba T., Yuzawa H., Kobayas A. Kuroda M., Ohta T., Uchiyama I., Nagai Y., Lian J.-Q., Ito T., A. Karoda M., Oguchi A., Aoki K.-I., Nagai Y., Lian J.-Q., Ito T., A. Kanamori M., Matsumaru H., Maruyama A., Murakami H., Hosoyam A., Mizutani-Ui Y., Takahashi N.K., Sawano T., Inoue R.-I., Kaita A., Kanchisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., A. Kanchisa M., Yamashita A., Oshima K., Furuya K., Yoshino C., A. Hattori M., Ogasawara N., Hayashi H., Hiramatsu K.; T. "Whole genome sequencing of meticillin-resistant Staphylococ aureus."

T. Lancet 357:1225-1240(2001).
L. Lancet 357:1225-1240(2001).
L. EMBL; AP003359; BAB56572.1; -.
W Hypothetical protein; Complete proteome.
W Hypothetical protein; Complete proteome.
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